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# Pakistan Journal of Public Health, 2012 (June)

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Instruction to Authors

About the Pakistan J Public Health
The Pakistan Journal of Public Health is a peer reviewed national journal published quarterly by the Health Services Academy, Islamabad, Pakistan. It will soon be abstracted/indexed both nationally and internationally. The Pak J Public Health is an open access journal which will benefit all those working in the field of public health in Pakistan.

Scope of the Journal
The Pak J Public Health accepts articles from both national and international contributors with a special emphasis on research that will have a direct impact on the practice of public health in Pakistan and around the world. The types of articles accepted include original articles, review articles and short communications. Special features will include opinion pieces, letters to the editor, education forum and students corner.

Editorial Process
The Pak J Public Health will only publish articles that have not appeared anywhere else. The review process will entail an initial review for short listing articles on the basis of relevance to public health issues, meeting minimum technical/scientific standards, having a significant public health message. Articles passing the initial short listing process will be subjected to a double blind review by at least 2 reviewers of renowned status in public health field, nationally and internationally. They will assess the articles on the basis of objectives, methodology, scientific rigor and conclusions drawn. Any queries generated during this process will be forwarded to the author/s for correction or revision by the journal editor/s. When all outstanding issues in the article have been addressed/corrected, the final document will be subjected to a light edit for grammar, punctuation and language. The authors will be given up to a week to approve the final document for printing.

Authorship Criteria
Authorship of the articles can be claimed by those researchers who have made a major contribution in the study. Acceptable contribution would include, design & concept of study, data gathering, interpretation & analysis, article writing, proofing and/or corrections. Authors would also be expected to declare any possible conflicts of interest as well as the degree of contribution to the above mentioned criteria by each of the authors of the study. The sequence of authors once submitted will not be changed without the express consent of all authors. Furthermore, the number of authors for each study should reflect the scope of work. National level, multi site studies or those having multiple collaborating partners could have more authors than ones dealing with limited scope.

Clinical Trial Registration
This section would require info on any registering bodies for current RCTs/clinical trials.

Preparation of Manuscripts
The manuscripts should be prepared in accordance with the ICMJE guidelines for manuscript submission. Before submitting a manuscript, contributors are requested to check for the latest instructions available. http://www.icmje.org/urm_full.pdf

Articles will have to be formatted to fit Pak J Public Health criteria as follows:

1. Original research
   Abstract
   Abstracts of original research article should be prepared with a structured format i.e. Introduction/background, objectives, methods, results and discussion/conclusion. Authors must include 4-6 key words. Review article, Case report and other require a short, unstructured abstract. Commentaries do not require abstract. Abstract should not exceed the word limit of 300 words for original articles and the total word count not more than 3000 words, excluding the abstract and references.
   Introduction
   This section should include the purpose of the article. The rationale for the study or observation should be summarized; only strictly pertinent references should be cited; the subject should not be extensively reviewed. Data or conclusions from the work being reported should not be presented.
   Methods
   This section must include the type of study, study population, study area, study duration, details of developing tools for data collection, pre-testing, data collection, plan of analysis, ethical considerations and any other detail deemed necessary to be submitted to support the researchers’ work. References to established methods should be given, including statistical methods; references and brief descriptions for methods that have been published but are not well known should be
provided; new or substantially modified methods should be described, giving reasons for using them, and evaluating their limitations.

Results
These should be presented in a logical sequence in the text, tables, and illustrations. All the data in the tables or illustrations should not be repeated in the text; only important observations should be emphasized or summarized.

Tables and figures
Tables and figures should be kept to a minimum. Tables must be comprehensible without reference to the text. References should not be cited in the tables. Authors should indicate at approximately what point in the text the table should appear. Figures, graphs, drawings etc. should not be over complex and must be intelligible when reduced in size for printing. They should be on separate sheets, numbered and with legends. Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

Discussion
The author’s comment on the results, supported with contemporary references, including arguments and analysis of identical work done by other workers. A summary is not required.

2. Review
A comprehensive, evidence-based review of the literature relating to an important, major public health area, with a critical analysis and conclusions. The literature review methodology, including databases searched, search terms and dates, should be detailed. Reviews should normally not exceed 4000 words and should include up to three key message points.

Reviews can be submitted on
- Public health practice and impact
- Health service effectiveness, management and re-design
- Health protection including control of communicable diseases
- Health promotion and disease prevention
- Critique on public health programs or interventions
- Public health governance, audit and quality
- Public health law
- Public health policies and comparisons
- Capacity in public health systems and workforce
- Social determinants of health

This is not an exhaustive list and the Editors will consider articles on any issue relating to public health.

3. Short Reports /commentaries
Manuscripts for publication as Short Reports should be of an overall maximum length of 2000 words, including summary and references. This is equivalent to approximately four printed pages of the Journal. If Tables and/or Figures are included (maximum of one page), the text should be limited to 1500 words. The report should have a short summary, followed by a single text section that is not divided into introduction, results and discussion sections etc. (as in full papers). These should be submitted to the Journal in the same way as full papers (see Submissions).

4. Letter To The Editor
Letters to the editor and replies should offer objective and constructive criticism of published articles. Letters may also discuss matters of general interest to readers of Pak J Public Health and the public health community. Material being submitted or published elsewhere should not be duplicated in letters, and authors must disclose financial associations or other possible conflicts of interest. Letters should not be of more than 500 words and 5 references.

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5. Article not in English (Note: NLM translates the title to English, encloses the translation in square brackets, and adds an abbreviated language designator.): Ryder TE, Haukeland EA, Solhaug JH. Bilateral infrapatellar seneruptur hostidligere frisk kvinne. Tidsskr Nor Laegeforen 1996;116:41-2.

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11. Editor(s), compiler(s) as author: Norman IJ, Redfern SJ, editors. Mental health care for elderly people. New York: Churchill Livingstone; 1996.

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File 2: Blinded article having title; but no identifying features with respect to authorship.

File 3: Transfer of copyright document.

A declaration signed by all the authors of the article verifying the authenticity, honesty of the work and meeting of PJPH set criteria for submission should also be included. Registration number in case of RCT/clinical trial from the registering body should also be provided. Please note that any copyrighted material in the manuscript should be accompanied by copies of relevant permissions obtained from the relevant authorities.

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Letter from the Executive Editor

Welcome to the third issue of the Pakistan Journal of Public Health. It is indeed a pleasure to see this journal receiving an admirable response from the public health fraternity in Pakistan and overseas. We have increased our print circulation as well as opened access to an e issue on our website. Pakistan Journal of Public health is also listed on the PakMedinet website (which is the most comprehensive collection of the e-issues of all the medical journals published in the country). The quality and rigour of the journal articles has been appreciated at the regional level and as a result our journal is now indexed in Index Medicus of the Eastern Mediterranean Office of the World Health Organization (IMEMR).

This issue of Pak J Public Health presents its readers a novel collection of several original papers and some critical reviews. We thank all the authors who have submitted to us their genuine work and critical reviews for the current issue of the journal. The original articles comprise a thought provoking paper on the missing link between the post abortion care and the need for family planning counseling. Another one on the role and functionality of health management information system on disease reporting is a very important paper especially in the wake of the new roles and responsibilities of the provinces where they have to strategize their respective health sectors all by themselves. The article on difficulties faced by the lady health workers is yet another evidence documenting in what circumstances and socio-cultural conservatism these workers discharge their duties. The article on insurance and health service utilization is a unique case study to highlight the importance of social protection and appropriate and timely use of the health care. This time we have added a study on incinerators installed in various public sector hospitals to show their performance and utility in the system. The paper on nutrition habits among youth presents some important results for the organizations, institutions, and even the families to understand the perceptions, habits and behaviours of young people when it comes to adopting the right diet. As for the reviews in this issue, we present to you a paper on health system strengthening framework adapted to address the challenges in the post devolution times of Pakistan. Another one which is related to it focuses on the role of think tanks in policy making and advising on the policy matters in a developing country context. Similarly, a short commentary would be very enlightening which is capturing the affairs in the health system of Pakistan, one year post devolution.

Pak J Public health is striving to achieve the excellence by taking prominent position in the medical journalism and we will soon be approaching the Pakistan Medical & Dental Council for yet another milestone. At this juncture, we are most grateful to our readers and editorial board members for supporting all our efforts.

Dr Babar Tasneem Shaikh
15th June 2012, Islamabad.
Hidden hunger yet a challenge

Qudsia Anjum

Malnutrition in Pakistan has been a center of focus in health industry for over a decade, yet attainment of targets seems a challenge to this day. The most recent figures by United Nations Food and Agriculture (FAO) have indicated that 24 percent of the Pakistani population is undernourished. In addition, the report highlighted that 37.5 million people in Pakistan are not receiving proper nourishment (1). This alarming situation is only tip of the iceberg, which becomes evident due to prevailing malnutrition coexisting with poverty in under privileged communities. The dilemma is amalgamated by micronutrient deficiencies, which remain under the iceberg, because the signs and symptoms are not manifested unless a severe deficiency state is reached. Therefore, public health specialists and scientific community describe it as hidden hunger because it is not felt in the belly; it is caused by foods deficient in essential vitamins and minerals. It is not only responsible for affecting the core of health and vitality; it also poses devastating threat to well being, education, economic growth and human dignity in developing countries.

The 1990 World Summit on Children clearly laid emphasis on micronutrient deficiencies, “the hidden hunger”, and target goals were set to address the problem (2). Many international agencies showed their commitment to move forward towards the goal, yet to this day, little progress is seen in child survival and only slight change has been noticed in the statistics (3). This sorry state of health is discernible in Pakistan also, which has not been able to bring about a marked change in health statistics despite all enthusiasm and dedication. The most recent publication by UNICEF highlighted that an estimated 31% children are underweight and 42% are stunted in Pakistan (4). This demonstrates explicitly that almost over one third of the growing nation is at risk of not only waning physical development but also dwindling cognitive performance.

Addressing the specific micronutrient deficiencies, iron, vitamin A, iodine, vitamin D, zinc and folic acid are of significance. The United Nations Standing Committee on Nutrition published its recent report drawing the attention to underweight, and deficiencies of most common micronutrients as iron, iodine and vitamin A (5). The report stated that in all developing countries, an estimated 163 million children are deficient in vitamin A, with a prevalence of about 30%. Furthermore, in Asian subcontinent, the prevalence of underweight and stunting is 22% and 31% respectively. The World Health Organization report revealed that globally anemia affects 1.62 billion people corresponding to 24.8% of the population, with highest prevalence in pre-school age children as 47.4% (6). To emphasize the concomitant micronutrient deficiency in Pakistan, a recent study from one of the tertiary hospitals in Karachi revealed 78% of malnourished children had anemia and 44% of stunted children had coexisting rickets (7).

The situation is complexed by multiple factors prevalent in the country, worth mentioning are accelerated increase in population, poverty, illiteracy and faltering economy1. The vicious circle of malnutrition, concomitant diseases and poverty is not giving room for improvement in the status. The malnourished group can be considered in equivalence with immuno-compromised individuals. This can be further explained by the fact that with declining state of health, the body’s immune response is not able to fight against any organism invading the body, thereby, increasing morbidity and mortality. This chain of events leads to failure to thrive, putting the foundation wither rather than blossom.

The evaluation of the targets set by Millennium Development Goals (MDGs) indicated that despite some advancement, one in four children in the developing world is still underweight. To combat with the situation, MDGs target for 2015 has given immense importance to the issue of nutrition, as apparent from the first goal in the list, which is, “eradicate extreme poverty and hunger” (8). These two factors are very closely linked and dependent on each other, rather hunger can be attributed to poverty. The country’s economic situation pressurizes the inhabitants with high inflation rate, and no increase in income, making provision of adequate nutritious food to the growing population an unanswerable question.

In addition to the efforts mentioned in the struggle, Tawana Project, a government funded school nutrition program was introduced in Pakistan. This public private partnership did prove to be an endeavour in decreasing the malnutrition of girls in the rural region. It demonstrated that balanced meals can be achieved from locally available foods at nominal cost. This was another milestone in combating the issue, but government bureaucracies
proved to be the bottlenecks in its success (9).

The evolution of malnutrition is frightening and its rampant spread to developing countries is frightening, making them equally threatened by the foreseeable outcomes to these deficiencies. With nearly a third of the planet affected in one or the other way for which an evident solution exists, nothing than perseverance, energetic action and eradication is the only pragmatic answer.

The fundamental determinants of under nutrition have been well understood for decades, yet failure in accomplishment is observed. The design, testing and scaling of more holistic multi-pronged approaches and multi-sectoral packages that combine child care and disease control interventions with food fortifications has been limited in their development and implementation. At a time when human accomplishments are being threatened by economic and climatic crises, ensuring adequate food and nutrition is imperative and crucial. The successful execution of Community based programmes and extended primary health care with near-universal coverage is the need of the hour, this is the challenge to be met.

References
Introduction

With approximately 174 million population of which 65% lives in rural areas, Pakistan is not only the 6th most populous country in the world but, it is also projected to be the world's 4th largest nation on earth by 2050 (1-3). Though Pakistan was first among the South Asian countries to recognize the importance of family planning for sustainable development and introduced family planning program in 1960s (4), but it has achieved limited success in lowering the total fertility rate (TFR) and population growth rate. Today, Pakistan is one of the six countries where more than 50% of the world's all maternal deaths occur (5) with one woman dying every twenty minutes and 30,000 annually due to pregnancy-related complications (6). With the recent Pakistan Demographic Health Survey (2006-7) showing TFR at 4.1, stagnant CPR (29.6%), high (25%) unmet need for contraception, and one out of every four birth being unwanted(1) the prospects for achieving MDG 4 and 5 by 2015 are bleak until some committed, effective, innovative and out-of-the-box measures are taken.

Globally, approximately 42 million pregnancies each year end in abortion (7), where half of these happen under unsafe conditions (8). More than 95% take place in developing countries (8,9). The only nationally representative study conducted in 2004 estimates 890,000 induced abortions occurring every year in Pakistan with annual abortion rate of 29 per 1,000 women aged 15-49; resulting approximately 200,000 hospitalizations for post-abortion complications.Moreover, one abortion in every five live births implies that every Pakistani woman on an average has an abortion during her lifetime (10). A fairly recent study reveals that around 40% of abortions are performed by unskilled workers in backstreet clinics (11). Considering these grave statistics, it should not come as surprise that unwanted pregnancies are the leading cause of induced abortions in Pakistan. Despite country's inferior situation, there is no data available in Pakistan that unveils the much needed information pertaining to post-abortion care family planning (PAC) use. Thus, this paper attempts to document socio-demographic profile seeking post-abortion care clients; estimate proportion of post-abortion contraception uptake and determine its associated factors.

Methods:

Medical records of 17,262 women seeking PAC as a result of incomplete abortion and treatment for complications arising from unsafe abortions were analyzed. The associations between risk factors and post-abortion family planning uptake were assessed by applying univariate and multivariable logistic regression.

Results:

High post abortion contraceptive use (72.9%) was observed amongst the women who had sought for PAC services, where, 66% of the women opted to use short-term methods. The rest (33.5) considered long-term reversible IUD and implant as their method of choice and only 0.4% had undergone voluntary sterilization. Multiple logistic model identified province, women education, women occupation status, monthly family income, first time visitors to the centre, previous contraceptive use, and type of PAC treatment provided, women's health condition after post-abortion treatment had significant associations with the uptake of contraception.

Conclusion:

The present study highlights the importance of strengthening post-abortion family planning services in the country which will not only contribute in increasing the overall contraceptive use in the country but will also prevent high unintended pregnancies that may ultimately lead to induced abortions. (Pak J Public Health 2012;2(2):4-9)

Keywords: Post Abortion Care, Family Planning, Modern Contraception, Pakistan.
'underground' in highly clandestine conditions with little regulations or oversight from the government (14). Despite the adverse health effects of abortion, the low economic status of these women compels them to resort to abortion rather than practicing contraception - as the former entails a 'one-time cost' as opposed to the continuing costs of contraceptives (15). These high numbers of abortion not only identify the need for promoting contraception on the whole. Yet, it also highlights the importance of strengthening post-abortion family planning services in the country.

Postabortion family planning use varies widely depending upon the quality of family planning and counseling services provided to such clients. The substantial results advocate that post-abortion counseling may be an effective tool to increase the usage of contraceptives. In addition, improved post-abortion family planning counseling should be an integral part of post-abortive care services (16). Although, adoption of any contraceptive method would be important, if not that effective, for that at least do play pivotal role to prevent unwanted pregnancies rather than of being a non-user of any contraception.

Despite country's inferior situation, there is no data available in Pakistan that unveils the much needed information pertaining to post-abortion care family planning. Thus, this paper attempts to document socio-demographic profile seeking post-abortion care clients; estimate proportion of post-abortion contraception uptake and determine its associated factors.

This present study was conceptualized following the idea of a similar study conducted in Ethiopia (17). We used the client-based health services data obtained from local NGO clinics, that provides quality post-abortion care (PAC) services to women seeking such services as a result of incomplete abortion and treatment for complications arising from unsafe abortions. The NGO maintains a record of health services, socioeconomic and demographic profiles of its clients. This data is systematically recorded in a computer based Client Information System (CIS) which is managed by its Management Information System department.

**Methods**

We analyzed the client service records (collected prospectively) of women seeking PAC related services from local NGO clinics during July 2010 to June 2011. This client data was collected as part of a screening/pre-assessment of post-abortion care seekers. All the relevant centre staff members of the NGO were trained on data gathering and its computerization. All the clients provided written informed consent before the service provision, and the client confidentiality was maintained throughout the process from data extracting to analysis and reporting. In addition, the data analysis was not conducted by facility specification and no information was disclosed. No direct contact was made by the authors with the clients.

Clients were selected using a multistage sampling strategy. All (5) Balochistan centres and four (4) centres of KhyberPakhtoonkhwa (KPK) province were excluded since these centres had no CIS installed. The total eligible centres included: Sindh 19; Punjab 35; and KPK 5 centres. Within each province, based on PAC services, we purposively selected three each low, middle and high performing centres from Sindh and Punjab Province; while from KPK one each (low, middle, and high performing) centre was selected.

During July 2010 to June 2011, a total of 17,262 women received PAC related services at the selected centres. Records of all women were included in the descriptive analysis; however 1,334 medical records of women were excluded from multivariable analysis due to missing values in different potential risk factors.

We included variables pertaining to socio-demographic: women age, education, husband's education, women occupation status, average family monthly income, and number of alive children; reason for post-abortion care: type of treatment for complication arising from unsafe abortion and following an incomplete abortion medical (PAC-M) or surgical (PAC-S), counseling, and post procedure contraceptive services uptake by method, last contraceptive method used and whether women has ever been to the (index) centre before, and women's health condition after treatment of post-abortion.

**Statistical Analysis**

Data were presented in tabular and graphical form based on simple proportions for socio-demographic and health services indicators. The associations between risk factors and post-abortion contraception uptake\(^1\) were assessed by applying univariate and multivariable logistic regression. SPSS 18.0 was used for analyses. A p-value of <0.05 was taken to indicate statistical significance. Moreover, to ensure confidentiality, the names of the clinics/facilities were not displayed and facility wise analysis was also avoided.

\(^1\)Women who received any modern contraceptive method, within 30 days, after the treatment of neither post-abortion complication nor following an incomplete abortion.
Results
Profile of PAC clients:
Of the total women who received PAC services, 54.6% were from Sindh, 31.8% from Punjab, and 13.7% were from KPK province. Three-fifths of the women aged 25 to 34 years, followed by 35 to 49 years (22.1%). One out of four women had more than four live children. Low education was found among study participants and their husbands, where 47.8% and 42.9% of them had no formal education, respectively. Moreover, 83.9% were housewives, and the average family monthly income of majority (46.3%) was =6000PKR (Table 1).

Nearly three-fifths of PAC seekers never used any contraceptive method, while condom (20.1%), pill (7.1%), withdrawal and injection (4.5% each) were the common methods most recently by them. Nearly 83 percent of the women had come to clinic for the first time whilst 54.0% used surgical treatment and 46.0% opted to choose medical treatment. Only 0.9% of the women were in poor health condition as observed by the service provider, while majority 62% were marked as ‘good’ (Table 1).

Table 1: Socio-demographic and health services indicators of women who received post-abortion care services between July 2010 and June 2011

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province*</td>
<td></td>
</tr>
<tr>
<td>Sindh</td>
<td>54.6</td>
</tr>
<tr>
<td>Punjab</td>
<td>31.8</td>
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<tr>
<td>KPK</td>
<td>13.7</td>
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<tr>
<td>**Women age (years)**b</td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>15.9</td>
</tr>
<tr>
<td>25-34</td>
<td>60.3</td>
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<tr>
<td>35-49</td>
<td>22.1</td>
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<tr>
<td><strong>Women education</strong>c</td>
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<tr>
<td>None/no formal</td>
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</tr>
<tr>
<td>Primary</td>
<td>26.3</td>
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<tr>
<td>Post-secondary</td>
<td>10.5</td>
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<tr>
<td><strong>Husbandeducation</strong>d</td>
<td></td>
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<tr>
<td>None/no formal</td>
<td>42.9</td>
</tr>
<tr>
<td>Primary</td>
<td>27.1</td>
</tr>
<tr>
<td>Secondary</td>
<td>14.6</td>
</tr>
<tr>
<td>Post-secondary</td>
<td>15.4</td>
</tr>
<tr>
<td><strong>Average family monthly income</strong>e</td>
<td></td>
</tr>
<tr>
<td>≤ 6000</td>
<td>46.3</td>
</tr>
<tr>
<td>&gt; 6000 – ≤9000</td>
<td>27.6</td>
</tr>
<tr>
<td>&gt; 9000</td>
<td>26.1</td>
</tr>
</tbody>
</table>

| Number of alive childrenf |         |
| 1 to 2                   | 37.8    |
| 3 to 4                   | 39.1    |
| 5+                       | 23.1    |

| Most recent contraceptive method usedg |       |
| Never used                   | 60.4   |
| Condom                       | 20.1   |
| Pills                        | 7.1    |
| Injection                    | 4.5    |
| IUD                          | 3.3    |
| Implant                      | 0.0    |
| Periodic                     | 0.1    |
| Withdrawal                   | 4.4    |

| Women Occupation Status h   |       |
| Housewife                   | 83.9   |
| Working                      | 16.1   |

| Women Health Condition l    |       |
| Poor                        | 0.9    |
| Fair                        | 37.3   |
| Good                        | 61.8   |

| Women ever been to the facility beforel |       |
| No                                        | 82.7   |
| Yes                                       | 17.3   |

| PAC Treatmentk               |       |
| PAC-Surgical                 | 54.0   |
| PAC-Medical                  | 46.0   |

*Missing cases 26; ‡Missing cases 457; §Missing cases 680; †Missing cases 683; ‡Missing cases 1334

Post-abortion contraceptive uptake and its associated factors:
Almost 73% of the PAC seekers adopted some method of modern contraception. Among those who used, majority (31.6%) had inserted IUD, followed by condom (29.1%), pill (27.2%) and injection (9.7%). Only 1.9% chose implant and 0.4% had undergone sterilization (Figure 1).

Figure 1: Contraceptive uptake among women seeking PAC services
Table 2: Unadjusted and adjusted odds ratios of post-abortion contraceptive uptake, by socio-demographic, contraceptive and health services indicators

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Post-abortion modern contraceptive uptake</th>
<th>OR(95% CI)</th>
<th>AOR(95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Province</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punjab</td>
<td>5481</td>
<td>65.7</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sindh</td>
<td>9419</td>
<td>74.0</td>
<td>1.48 (1.37-1.60)*</td>
<td>1.76 (1.59-1.95)*</td>
</tr>
<tr>
<td>KPK</td>
<td>2362</td>
<td>85.4</td>
<td>3.04 (2.67-3.45)*</td>
<td>5.10 (4.32-5.96)*</td>
</tr>
<tr>
<td><strong>Age of women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>3033</td>
<td>68.4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&gt;24-34</td>
<td>10391</td>
<td>73.6</td>
<td>1.29 (1.18-1.40)*</td>
<td>0.99 (0.88-1.11)</td>
</tr>
<tr>
<td>&gt;34-49</td>
<td>3812</td>
<td>74.6</td>
<td>1.35 (1.22-1.50)*</td>
<td>0.93 (0.80-1.08)</td>
</tr>
<tr>
<td><strong>Women education categories</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>8248</td>
<td>75.8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Primary</td>
<td>4536</td>
<td>68.4</td>
<td>0.69 (0.63-0.75)*</td>
<td>1.17 (0.98-1.40)</td>
</tr>
<tr>
<td>Secondary</td>
<td>2673</td>
<td>68.0</td>
<td>0.68 (0.62-0.74)*</td>
<td>0.95 (0.82-1.10)</td>
</tr>
<tr>
<td>Post-secondary</td>
<td>1805</td>
<td>78.2</td>
<td>1.14 (1.01-1.29)*</td>
<td>1.53 (1.22-1.92)*</td>
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<tr>
<td><strong>Husband education categories</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal education</td>
<td>7410</td>
<td>75.8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Primary</td>
<td>4680</td>
<td>68.5</td>
<td>0.69 (0.64-0.75)*</td>
<td>0.98 (0.82-1.16)</td>
</tr>
<tr>
<td>Secondary</td>
<td>2519</td>
<td>68.7</td>
<td>0.69 (0.63-0.77)*</td>
<td>1.00 (0.85-1.17)</td>
</tr>
<tr>
<td>Post-secondary</td>
<td>2653</td>
<td>76.5</td>
<td>1.04 (0.93-1.15)</td>
<td>1.10 (0.90-1.35)</td>
</tr>
<tr>
<td><strong>Monthly family income of women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤6000</td>
<td>7783</td>
<td>73.4</td>
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<td>1</td>
</tr>
<tr>
<td>&gt;6001 to 9000</td>
<td>4622</td>
<td>71.9</td>
<td>0.93 (0.85-1.00)</td>
<td>1.25 (1.11-1.39)*</td>
</tr>
<tr>
<td>&gt;9000</td>
<td>4390</td>
<td>72.1</td>
<td>0.94 (0.86-1.01)</td>
<td>1.61 (1.40-1.83)*</td>
</tr>
<tr>
<td><strong>No. of alive children</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1 to 2</td>
<td>6272</td>
<td>71.7</td>
<td>1</td>
<td>1</td>
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<tr>
<td>3 to 4</td>
<td>6485</td>
<td>73.6</td>
<td>1.10 (1.02-1.19)*</td>
<td>1.09 (0.98-1.17)</td>
</tr>
<tr>
<td>&gt;4</td>
<td>3825</td>
<td>74.8</td>
<td>1.17 (1.07-1.28)*</td>
<td>1.09 (0.94-1.16)</td>
</tr>
<tr>
<td><strong>Last contraceptive method used</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never used</td>
<td>10018</td>
<td>72.0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Used any method</td>
<td>6561</td>
<td>74.4</td>
<td>1.13 (1.05-1.21)*</td>
<td>1.22 (1.12-1.32)*</td>
</tr>
<tr>
<td><strong>Women occupation status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>2772</td>
<td>66.5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Housewife</td>
<td>14490</td>
<td>74.1</td>
<td>1.44 (1.32-1.57)*</td>
<td>1.20 (1.04-1.37)*</td>
</tr>
<tr>
<td><strong>Women condition of health</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>139</td>
<td>47.5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fair</td>
<td>5941</td>
<td>64.4</td>
<td>2.00 (1.42-2.80)*</td>
<td>2.11 (1.46-3.06)*</td>
</tr>
<tr>
<td>Good</td>
<td>9848</td>
<td>77.9</td>
<td>3.91 (2.79-5.46)*</td>
<td>4.00 (2.76-5.75)*</td>
</tr>
<tr>
<td><strong>Women ever been to the facility before</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>14281</td>
<td>71.9</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Yes</td>
<td>2981</td>
<td>77.7</td>
<td>1.36 (1.24-1.50)*</td>
<td>1.91 (1.70-2.13)*</td>
</tr>
<tr>
<td><strong>Type of PAC-service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAC-M</td>
<td>7939</td>
<td>64.6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PAC-S</td>
<td>9323</td>
<td>80.0</td>
<td>2.18 (2.03-2.33)*</td>
<td>2.65 (2.44-2.87)*</td>
</tr>
</tbody>
</table>

*Statistically significant
The adjusted odds ratio in table 2 shows that women in Sindh and KPK province had (1.76 and 5.07 times, respectively) higher chances of adopting post-abortion modern contraceptive compared to women from Punjab. Similarly, women having post-secondary education had 1.53 times more likely to adopt modern contraception compared to those who had no formal education; while uptake of contraceptive among housewives was substantially higher (AOR=1.20) compared to working women. Family monthly income was also found increasingly associated with uptake of post-abortion contraception.

Women who had previous contraceptive experience were 1.22 times higher odds of opting for contraception compared to those who had never used any contraceptive method. Likewise, women who received surgical treatment had 2.65 times and those came to the clinic first time had 1.91 times higher chances of adopting contraception compared to women who received medical treatment and have ever been to the facility before, respectively. In addition, women's health condition after post-abortion treatment was also found increasingly associated with the uptake of contraception (Table 2).

**Discussion and Conclusion**

Findings from a multi-country review concluded that investment in family planning services can reduce unintended pregnancies and unsafe abortion, and contribute towards achieving the Millennium Development Goals (18). Whilst, comprehensive post-abortion care is also identified as an important intervention to treat complications resulting from miscarriage and unsafe abortion, reduce the incidence of repeat unplanned pregnancy, and decrease the incidence of repeat abortion(19) since post abortion period is the right time to introduce contraceptive advice because women are more ready to receive massages (16).

The findings of the present study revealed that majority of the PAC seekers aged between 25 to 34 years, had 1 to 4 children, less educated, housewives, monthly family income was =6000 PKR, and importantly they have never used any contraceptive method. The overall uptake of post-abortion contraception was significant - 72.9%. Amongst those, an almost 35% relied on long term and permanent methods (more than 90% used long-term reversible IUD); while 65% opted to choose less effective methods such as pills, injections and condoms which is consistent with the findings of a recent systematic review on PAC family planning (20). Yet, the reason for not opting for contraceptive, amongst those who did not choose any contraceptive, should be explored in order to better understand a broader client perspective.

The study also determined significant association between post-abortion contraceptive uptake and several risk factors that include: province, women education, women occupation status, monthly family income, and first time visitors to the centre. Moreover, higher chances of contraceptive uptake was found among women who received surgical treatment; this probably due to nature of procedure which takes shorter time and is carried out at the centre whereby the providers have the opportunity to counsel the client on contraception, and clients can also choose the method of their choice at the same instant. On the contrary, the medical procedure does not take place in one go and may require clients to come back to the centre to choose a method of their choice, except for condom and pill. Lower odds of post-abortion contraceptive uptake among women who have never used any contraception reinforces the fact that abortion perhaps being used as a method of family planning and the reluctance of using contraceptive methods among them.

Despite this study revealed some vital findings, it suffers some limitation common to all retrospective analyses. Moreover, this study used the data of a single NGO and representing only three provinces of Pakistan. Additionally, the women were not followed prospectively once they received the contraceptive method after post-abortion treatment so as to determine the level of method continuation. Lastly, no information was gathered if the women used the contraception from any other provider within 30 days of post-abortion treatment.

Most importantly, this was one of the first facility-based studies focusing on post-abortion contraceptive uptake in Pakistan. The study identified the groups that need to be focused where adoption of post-abortion contraceptive is low. On the whole, the findings set the foundation for strengthening post-abortion contraceptive uptake, which will not only contribute in increasing the overall contraceptive use in the country but will also prevent high unintended pregnancies that may ultimately lead to induced abortions. Nonetheless, the available global evidence on post-abortion contraception use is scarce especially from developing and low-income countries perspective such as from Pakistan. Thus, there is a strong need to conduct comprehensive evaluation through employing multi-country prospective cohort studies to determine method continuation rates; impact of post-abortion family planning use on maternal mortality or illness, unsafe abortions and unplanned pregnancies (20).
References
Role of Health Management Information System in disease reporting at a rural district of Sindh

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¹Health Systems & Policy Department, Health Services Academy. ²Research and Development Department, Health Services Academy. (Correspondence to Kumar R: ramesh@hsa.edu.pk)

Abstract:
Introduction: Health information system in Pakistan is poorly designed and data collection is mostly incomplete, inaccurate, untimely and unrelated, which renders it of little help in decision making for planning and management of health services. This study was conducted to investigate the role of Health Management Information System (HMIS) in disease reporting in district Jamshoro, Sindh.

Methods: It is a descriptive study based on the data recorded in District HMIS cell and monthly reports of 34 health facilities on priority diseases and other related health events. Observations were also made on various steps, components and the application of HMIS in disease reporting.

Results: Results show that 34 (47%) health facilities out of 72 are reporting and 38 (53%) were not reporting any data to district HMIS cell. Trained personnel were employed in 27(77) % of health facilities, 62% reports received were found to be accurate, 20.6% partially accurate and 17.6% were not accurate. Only 38% reports were sent in time and rest were delayed. About 85% reports were analyzed and interpreted; and in 79% of the cases any action was taken. Improper maintenance of record, lack of interest and cooperation of facility staff, inadequate staffing, and poor supervision, were the factors affecting reporting.

Conclusion: There is a need to initiate organizational development and institutional strengthening initiatives on disease reporting in HMIS in rural areas of Sindh. (Pak J Public Health 2012;2(2):10-12)

Key Words: Health, Management, Information, Disease reporting and data.

Background
The Health Management Information System (HMIS) provides specific information support at various levels of the health system to assist in evidence-based decision making in effective management of health system in Pakistan (1). HMIS is one of the most critical areas in the national health care system. Being a low resource country, Pakistan’s health sector is facing tremendous problems in meeting the health care needs of its people. Information needed to run the health system lacks due to poor data management (2). Information management therefore plays a vital role in effective management of Health system.

HMIS was designed to generate information on the status of ongoing health-related activities in order to facilitate evidence-based decision-making and effective management of health care systems at all levels. Previously the primary focus in information systems has been on the technical aspects, and it has recently been accepted that lack of disease reporting are of critical importance in the management of information systems (3). Accomplishment of information technology in health care depends on the position of organization in health care institutions and on the organization’s own internal structure. The organization needs strong leadership with sufficient means and abilities to manage change in the organizational and work paradigms (4).

To ensure that the right health care provider is in the right place with the right skills, we need up to date and accurate data on reportable diseases. A strong HMIS would thus help health care managers to quickly answer key policy questions regarding the burden of diseases. Inappropriate disease data affects not only the availability of HMIS specific information, but also, in its consolidation, standardization, analysis, and reporting in the planning and managerial processes (5). Ideally disease reporting of an HMIS specific Information System would begin with a thorough review and assessment of existing data sources, mechanisms, indicators, MIS tools and systems that currently exist in public sector health facilities (6).

Public health decision-makers require accurate and timely information on disease reporting within health system to monitor and plan resource needs. A basic requirement is reliable national and sub-national data, detailing the number of events for a given disease or condition occurring at health facilities each month or year. In most Pakistani settings, this is addressed with HMIS that
coordinates the routine disease reporting from health facilities and manages the transfer, compilation, and analysis of data through district, regional, and national levels (7).

Methods
This was a retrospective descriptive study carried out from January to June 2009, to examine the role of HMIS in district Jamshoro in Sind. Study was based on the data recorded in district HMIS cell and monthly reports on priority diseases and other related health events to observe the various steps, components and the application of HMIS in disease reporting. HMIS questionnaire were modified and used for this study after approval of the ethical review committee. The study sample included all the 72 health facilities of district Jamshoro which were supposed to be reporting data to HMIS cell. The sample comprised health facilities including THQs, RHCs, BHUs, district council and experimental dispensaries submitting HMIS reports.

Data was collected through a questionnaire administered to the relevant reporting personnel, district HMIS coordinator and computer operator. The observations were also recorded and data was processed through statistical package social sciences (SPSS) software version 16.

Results
The findings of the study showed that 34 (47%) health facilities out of 72 were reporting and 38 (53%) were not reporting data to HMIS cell in district Jamshoro (Figure 1). These facilities including; THQs, RHCs, BHUs, district council and experimental dispensaries. Mainly 59% the data is being reported by the in charge of the facility, while rest by other medical staff. Annual reports on HMIS are more frequently sent by 68% of health facilities but monthly reports were received by only 32%. Mode of transmission was reposted by personally coming to the cell and submitting the paper versions by 68% of the health facilities. In 77% of health facilities there were trained personnel in HMIS reporting but in 24% staff was not trained. About 62% reports received were found to be correct and complete, 21% partially correct and 18% were not filled on designed HMIS performa.

38% reports were sent in time and 62% were not submitted in time. There were 62 percent of health facilities, which sent accurate HMIS monthly reports, and 38% percent committed reports containing errors. About 85% reports were analyzed and interpreted and 79% of the cases action was taken. Improper maintenance of record, lack of interest and cooperation of doctors, inadequate staffing, poor supervision, were the factors affecting reporting.

Discussion
The target set for HMIS report compliance is high, which is very low as per the results of our study. The low level of compliance with HMIS reporting may be due to inadequate staffing at various health facilities in the district. If staff is posted, they get deputation in the cities and the rural areas remain under served. The political affiliation of the employees is one of the reasons leading to non-compliance in HMIS reporting as no administrative action can be taken against such elements. There are many health facilities which are called District Council Dispensaries and experimental Dispensaries which are administratively under the control of District local government but for the medicines and other logistics, executive district officer, health is responsible. The average HMIS reporting compliance rate in the Sindh during the year 2007 was 87%, but lower rates were observed in other areas such as District Badin 59%, Karachi 61%, and Jacobabad. The figures are closer to results of our study (8).

All the health facilities reporting their data through HMIS regular reporting used some kind of performa. Outpatient registers and other data recording instruments are very important for data recording. The problems of non-availability of stationary, calculators, telephone, computer system, printer, and fax machine are some of the impediments in the communication of information from facilities level to the higher level adversely affecting actions decision making, and planning. The scarce resources, corruption, and lack of supervision and accountability are the main reasons for the non-availability of the necessary material for office work, record keeping, and processing of data. The OPD registers are usually not maintained in public sector health facilities due to lack of knowledge, carelessness, lack of interest and cooperation by staff, low importance and priority given to the work. Our results were consistent with results from other developing country situation, for instance in Uganda, OPD registers were present in 85.3% of health facilities and 61.8% were filled out correctly. But the overall socioeconomic indicators of
our study area were better than the results shown in the study from Uganda but the reporting trend was similar as in Uganda (9).

Accuracy is also a very important tool to assess the quality of HMIS reports. Errors can lead to wrong actions. In our study area the errors can be attributed to lack of supervision, not taking reporting as a serious matter but just as formality, and lack of training of reporting persons. A study conducted in Pakistan shows that significant gap in recording and reporting of primary health care data in National programme for family planning and primary health care which are consistent with our study (10).

Other studies show that the effective use of information requires capacity development of district health managers in understanding and using data to facilitate policy makers and decision makers with provision of relevant data on time and in a concise form (11).

Conclusion
There is a need to initiate organizational development and institutional strengthening initiatives on disease reporting in HMIS. These may include defining the structure of organizations, specifying the roles, responsibilities and defining a career structure; managing resources, overhauling the training activity right from needs assessment to evaluation, creating sense of responsibility; motivating the staff and giving adequate and required incentives.

References
Introduction

Balochistan is the largest and the least developed province of Pakistan, where majority (66.5%) of the population resides in rural areas dispersed over large distances making delivery of health services challenging (1). According to the available data, male to female ratio in Balochistan (2) is 114.60 to 100. This can be attributed to high maternal mortality ratio reported to be 600-650 (3) to 785 deaths per 100,000 live births (4), preferential care of males (5) or a lower registration of women (6).

Methods: A qualitative descriptive study was conducted in Quetta to study the perceptions of LHWs on the gender based barriers faced in service provision.

Results: The findings suggest that though cognizant and proud of their contribution to the community, the responses of LHWs point out towards their concerns regarding issues of job insecurity, risks to reputation and professional outlook in community, harassment, gender insensitivity of the male supervisors, domestic tensions due to job related responsibilities and absence of career planning.

Conclusion: For a gender responsive health system improving LHWs’ status in the society is imperative. Affirmative measures are required for LHWs' capacity development and career pathing, gender sensitive supportive supervision, and gender sensitization of the program management and the community in LHWs' catchment areas. Greater efforts are required to ensure that LHWs' productive contribution to well-being of their households and the development of Balochistan are recognized and enhanced. (Pak J Public Health 2012;2(2):13-8)

Key words: Lady Health Workers, Gender, Primary Health Care, Pakistan.
existing vertical health programmes.

In order to achieve the objectives of the programme, LHWs are recruited from various communities. They are the first line representatives of peripheral community based outreach health services. According to pre-set criteria the LHWs are trained, paid and supervised by a supervisor appointed to 30 LHWs. Each LHW is paid a monthly stipend of Rs. 3190 (in 2006) and is responsible for the provision of a range of services to catchment population of 1000 (9).

Recruitment criteria of LHWs include acceptability and recommendation by their own community, at least 18 years of age, preferably married, with minimum middle school education (10). They are given 18 months training before deployment to the community. LHWs are assessed by their supervisors, who submit annual evaluation reports to the districts (9).

The LHWs register eligible population of their communities (married women aged 18yrs 49 yrs), organise a health committee and women groups and act as a liaison between the community and the health system. They educate people on basic hygiene, proper sanitation and work for the prevention and treatment of minor diseases. The LHWs provide family planning services and refer clients needing Intra Uterine Devices (IUDs) and contraceptive surgeries to the hospital. LHWs coordinate with the Extended Programme of Immunization (EPI) to immunize mothers against tetanus and children against the six diseases in the EPI schedule. They liaise between local health facilities and Traditional Birth Attendants (TBAs) (11).

Apart from these, LHWs are also involved in door-to-door polio immunization campaigns on national immunization days. Their services have also been utilized during disasters (9).

Methods
A descriptive study utilizing qualitative methods was adopted to explore the perceptions of LHWs. Primary data were collected during June-July 2007 from eighteen LHWs of Raisani Town, Killi Ismail, Kharotabad, G.O.R Colony, Hazara Town and Cantonment areas of Quetta, capital of Balochistan. Quetta was chosen because unlike the rest of the province, the majority of positions were filled. Moreover it was more accessible and convenient for the investigators, who were familiar with the social and cultural context of the region that is necessary in conducting a good qualitative research.

Open-ended questionnaire with probes was piloted and modified accordingly. Judgement or purposive sampling (12) was adopted to select eighteen information rich cases (i.e. LHWs with at least five years working experience in the program) for this study. Face-to-face, in-depth interviews were undertaken at LHWs’ residences. Workers were selected from different age groups ranging from early twenties to late fifties and in relation to their marital status.

The responses (mainly in Urdu) were translated and transcribed. Data were analysed using framework analysis in NVivo 8. Data was coded and themed. After this process, data was analysed into key themes, concepts and categories, which surfaced from the transcripts of these interviews (13).

Results
Context
Some parts of the city had rigid gender norms while others were quite the opposite. The areas covered by the LHWs were visibly cleaner. The houses were located in narrow streets and the program signboards made access easy. The LHWs were friendly and hospitable. Their residences were clean and had a room, referred to as ‘The Health House’ especially reserved for the clients.

An LHW in her early twenties was extremely excited about the interview.

Madam, no one has ever come to ask us about the work we are doing for our communities in the past 9 years of my job. I have always been waiting for someone to come and interview me about the programme. (Age 24, 12 years of education)

Despite being in the presence of a female, the young workers kept their heads covered throughout the interview. Men from their family were instructed not to enter the room where the interview was being taken due to cultural norms of the region. This was common in all the houses investigator went for interview.

Rationale for entry to position
Poverty was a common theme in the respondents’ narration for entry to position. Thirteen of the respondents stated financial constraints as the main reason to become a LHW. Majority of the women took up the job as it allowed them to work in their own community and from the comfort of their homes.

My husband is ill. He does not work and I am the bread earner of the family. (Age mid forties, 10 years of education)

I became a lady health worker as I needed the money and it allowed me to work in my own community. My husband is a police constable and we cannot bear the expenses of our three children with his meagre income and
inflation. (Age late forties, 10 years of education)

The respondents commonly felt that their presence in the community allowed women to access basic health care, which was not available to them earlier due to restrictive culture for women or owing to large distances to health centre to which they could not travel unless accompanied by men. Apart from helping women the respondents also wanted to help other people who did not have the money to buy medicines and educate them about leading a healthy life.

**I chose to become a lady health worker as women here have a lot of difficulties in going to the doctor because they cannot easily go out of their homes. I discuss their problems with them and every month when I have a meeting with the doctor, I discuss these problems... I mostly did it to help women.** (Age 25, 12 years of education)

### Interacting with males

The respondents felt that the tasks allocated to them as part of their job description makes them uncomfortable at times. LHWs are expected to sit amongst the male health committee to discuss various health related issues and attend workshops where men teach about family planning techniques. These contradict the existing social norms where discussion on sexuality related matters is considered a taboo. The young, particularly unmarried workers felt that in their community they are looked upon as immoral women, which also hinders their prospects for marriage.

**People think that we have a loose character as we go to different houses and talk about family planning. Some have even said it on our faces that we should be ashamed of ourselves that we are talking so openly about family planning with them.** (Age 27, 12 years of education, unmarried)

The respondents mentioned about difficulties in accessing the female clients due to attitude of the men. LHWs turned away from houses where men show disrespect and sometimes become abusive thinking that they will make their women hostile.

**In the area I cover there are 3 or 4 houses where men do not allow me. The man in the house in front of mine is almost guarding the house. When he is not around only then I can go to his house and talk to the women. When he is home he says that we do not need your medicine, go away!** (Age 49, 10 years of education)

Women also react in a different manner with the LHWs when their husbands are home. Respondents stated that most of the women in the community take up family planning methods without the consent of their husbands who take it as a sign of manhood to have a lot of children. The men are mostly unconcerned about the health of their wives and financial constraints. These men view the work of LHWs related to family planning only and picture them as a major obstacle in having more children. The women are scared of their husbands and the consequences they can face if they find out.

**When their husbands are not home and we visit them, they treat us very nicely and in case the husbands are home they say 'Go away! Do not come to our house and slam the door on us.'** (Age 24, 12 years of education)

Another issue mentioned frequently was lack of sensitivity towards gender based cultural constraints on LHWs by the male trainers/supervisors who expect the workers to openly discuss family planning with them. The workers, especially unmarried ones, feel shy in discussing such topics with male doctors who scold them for being unprofessional. Male doctors come at their own will to the LHWs’ Health Houses and start questioning them even in the presence of other males in the house.

**The male doctors ask a lot of questions and I feel shy answering them about family planning. They scold me then that if I feel so shy why did I take this job in the first place, they just do not understand that I am a girl and I will naturally be shy, no matter what.** (Age 26, 12 years of education)

The young and unmarried LHWs interviewed were not allowed to interact with men at the health committee meetings by the male members of the family; however the elder and married workers did not have such issues. The unmarried LHWs have their brothers and fathers setting up the male health committee by involving respectable men from the community and then conveying their message and conducting meetings for them.

**I cannot meet with men from the health committee. The nazim (mayor) and imam (religious person who leads prayers in the mosque) do not have time to meet me. My brother can meet them right after prayers and give them my message about good health. My brother and father will never allow me to talk to these men and sit amongst men and discuss health issues including family planning.** (Age 25, 12 years of education, Unmarried)

The respondents also mentioned them not being taken seriously by respected male members of the society (mayor, religious leaders) and whenever they approached them they were either turned away or asked to have a male member approach them.

**I have to involve them (males from health committee) as the nazim (mayor) will pay heed to these**
men, not me. For them a woman’s place is her home. (Age mid forties, 10 years of education)

When I formed the health committee I went to the president of the area. He agreed to join the committee and asked me not to come directly to him again rather send my brother or father the next time. (Age 26, 12 years of education)

Working within community

Generally the respondents were satisfied with the nature of their job as regards to working from home with flexible working hours yet they mentioned problems related to daily community visits and polio campaigns which requires them to visit areas apart from their community. They mentioned about problem of men teasing during their community visits. Men on the streets pass remarks on them.

People stare at me and make fun of me. Some even tease me and say ‘oh look! Lady Health Worker is going’. Some men look at me in a dirty way. (Age 26, 12 years of education)

Despite the hot weather, the LHWs have to cover themselves in burqa (a cloak) so that they can avoid such instances. They also refrain from carrying the bag, which bears the logo for the National Programme as people tease them more thinking that they are only carrying contraceptives in their bags and spreading immorality in the area. In areas like Kharotabad and Hazara town where it is rare for females to leave the house unaccompanied, the respondent reported being followed by different men and drug addicts. Due to the culture of gossip in the area the young LHWs said that they felt a great deal of mental pressure at times, especially during young male doctors' visits.

When male doctors (Field Program Officers/Supervisors) come for (official) visit, men from our community start talking to their drivers and inquire about the nature of their visit. Even if they are satisfied they still go around gossiping about us meeting these males in our house. (Age 27, 12 years of education, unmarried)

Working outside the community

The respondents felt more comfortable in working in their own community as after years of working in the area they were familiar with the people as well as the surroundings. Polio campaign, which takes place every month, involves visiting houses in other areas to administer polio drops to the children. The LHWs work in teams of 6 to 8, who then split to 2 workers visiting different houses in a locality. When the LHWs go for polio campaigns, people find it amusing to see so many women walking about in their area and tease them.

Young boys who are studying in school shout ‘Polio girls! Where are you going? Please give us drops too. (Age 26, 12 years of education)

All the respondents expressed concerns over their safety during the Polio Campaigns. Most of them had unpleasant experiences during campaigns except the one LHW who was exempted to take part in the polio campaigns because of her disability rendering difficulty in travelling to other areas. Among various instances where males in the houses they visited sexually harassed the workers the respondents shared that:

One of our team members was led to a house by a man who said that the children were inside. He led her to a dark room where she got scared and started shouting. The other team member who was standing outside saved her. The man then offered them money.

He took 100 Rupees out from his pocket and gave it to the team and asked them to take the money and come inside. They threw the money and ran away. (Age 26, 12 years of education)

As a safety measure most of the workers observe full purdah and avoid any make up during polio campaigns.

During the polio campaigns my team wears Burqa (veil covering from head to toe) and do not put on any make up (Age mid thirties, 10 years of education).

Inadequate, Irregular pays and lack of career advancement

The respondents were frustrated from the great amount of workload on them, have ambiguous job descriptions. To them participation in the measles campaign is not part of the job description but the workers were made to take part in them. Frustrations were deepened further by the irregularity in payments of and amount of their stipends despite Government’s announcement of an increase. Respondents also expressed insecurity due to the contractual nature of their job. They felt that any time the government can announce the closure of the Programme and they would be left jobless. This, in turn, affects the quality of service they provide as the LHWs feel that despite all their hard work they will get nothing in return.

Our salary was not being paid for 3 months, now that it is being paid, it’s not regular. Our job is also on a contract basis, we do not have a sense of job security. (Age mid forties, 12 years of education)

Dearth of supplies

Respondents mentioned a chronic shortage and interrupted supply of medicines (antibiotics, multivitamins etc.). After gaps of 2 to 3 months even when the medicines arrive these are few and not the ones that are needed.
These medicines bear the monograms/logos of the Ministries of Population Welfare and Health in order to check stealing and reselling of these medicines in the market. Conversely the illiterate community suspects that logos indicate that contraceptives have been mixed to control their fertility. The workers find themselves in an awkward position in describing to their client about the real purpose of having these stamps.

I tell them that these stamps are just because we cannot sell the medicines. It’s a shame that the programme cannot trust us and it is embarrassing telling our clients that these stamps [logos] are for this reason. (Age 25, 12 years of education)

LHWs felt that issue of logos and chronic shortage of medicines affect their professional outlook and relationships with the clients who suspect that the workers are hiding the medicines at home for personal use. This seriously damages the trust, which the workers have worked very hard to achieve. Their role is further undermined by the way their clients are treated once referred by them to the health centres. The doctors and the staff at the health centre do not give their referral any priority or take it seriously.

Once my client came to me and said, “Even the doctors do not give you any importance, why should we? They (doctors) threw your referral slip and said you do not know anything”. That really made me upset. (Age late forties, 10 years of education)

Impact of employment on domestic responsibilities

Although joint families system prevails in the province and other women help them in household work, responsibility for their childcare lies in the hand of the LHWs. The job leaves little time for household chores and if anything goes wrong in the house, these LHWs are quickly blamed of neglecting their family. Mother in laws constantly taunted them for being careless with their household duties. The LHWs reported conflicts with their families due to their inability to attend family gatherings and entertain guests due to job commitments. The unmarried LHWs are required to pay equal attention to their domestic responsibilities as according to their families they have to be groomed for marriage, which involves women doing all the household work. These workers are threatened with the prospect of being made to quit their jobs if they neglect their duties at home. Elderly mothers of some workers suffer greatly due to the nature of their job as they try to take over their daughter’s responsibility in order to let her work by the men folk.

My mother is too old to walk herself but she tries to do all my work so that my father and brothers may not stop me from working. She knows that my job means a lot to me. (Age 27, 12 years of education, unmarried)

Sometimes when I have guests over and a client comes and asks me to go with her, then I am in a dilemma because if I leave the guests that is against the social norms and if I do not go with the client, she will be distressed. (Age 26, 12 years of education)

Positive experiences

The workers were satisfied from their job as they felt they are helping other women and making their lives better. The job built confidence in them and they felt great pride in contributing to their household income. All the workers had been working for more than five years and talked about the change in attitude of their community. Those people who used to insult them in the beginning, after seeing the positive change the workers brought to their lives, treat them with respect.

Now they greet me well. I won their hearts with my mannerism. I always tell them that I am their well wisher and want to help make their lives better. Now they trust me. (Age mid thirties, 10 years of education)

Suggestions from respondents

The workers made some suggestions to facilitate their own work and make them more comfortable at their job.

Most of them felt that they work very hard yet do not get rewarded accordingly. If their stipend is increased, they will be much more satisfied with their job.

The salary of hard working LHWs, who face problems like unemployed husbands, be increased. (Age 26, 12 years of education)

Problems concerning the polio campaign emerged in most of the interviews. Workers felt extremely vulnerable and suggested recruiting men as part of the team for the polio campaigns and not forcing LHWs to visit areas where they fear harassment.

Respondents emphasized over the need of adequate supply of the requisite medicines. They also suggested removal of stamps from the medicines to remove clients’ fear that medicines contain contraceptives.

The programme should take steps to improve the referral system and make the doctors realize the importance of their clients.

The respondents felt that if they were offered permanent government jobs they would feel much more satisfied and will face less opposition from their family members as a government job is seen as a sense of security for the future. Contractual nature of the job should be changed to a permanent one.
If my job was permanent I would get more support from my family as they will know that my efforts are not going to be wasted and the future of my children will be good. (Age late forties, 10 years of education)

Discussion and conclusion:
Owing to the facts of poor utilization of first level health care facilities and limited access of women to the health system, LHW is the first contact between healthcare system and community. For a gender responsive health system a paradigm shift is necessary which calls for improving working women’s status in the society (14).

From the perspective of rights based approach to development, since women have restricted access to opportunities of education and capacity development, adoption of sincere, affirmative and positive measures are required.

From program management perspective, the need for supportive style of supervision is imperative. The technique of appreciative inquiry (15) could be helpful in that regard.

Gender sensitization of the program management and community where LHWs operate should be considered. Greater efforts are required to ensure that women’s productive contribution to well-being of their households and the development of Balochistan are recognized and enhanced.

Last but not least, career pathing and career planning of LHWs based on their individual contribution would serve as a positive step towards program development.

References
Quality and utilization of the health facilities by insured population at Social Security Hospital, Islamabad

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Abstract

Background: Given the scarcity of an efficient health insurance system and its optimal use in Pakistan, this study provides a brief overview of services offered by Social Security hospital and dispensaries in the province of Punjab. The study aimed at analyzing the pattern of services being provided by social security health insurance system at Islamabad and the reasons for availing the secondary level health facilities by insured population from Social Security Hospital Islamabad without availing primary level facilities i.e. Dispensaries.

Methods: This descriptive cross sectional study was done by using simple random sampling technique of the insured workers reporting to hospital at least for last six month. Data collection was done through structured questionnaire after taking verbal consent from patients.

Results: Of the total 290 respondents, 56.6% utilized social security facilities due to entitlement, 31% due to convenience, 4.1 % due to availability of female doctors, 3.1 % utilized them given the perceived good quality of care, 2.1% due to good paramedical staff, 1.7% because of their trust in the doctors, and 0.7% utilized the services given its easy accessibility for women. The results reveal that majority of the patients (82.6%) report at secondary level instead of utilizing the dispensaries. Reasons for underutilization of the primary level are lack of specialist doctors, diagnostic facilities and poor quality of medicines at dispensaries.

Conclusions: The study concluded that the scope of Social Security Institution should be broadened with enhancement of better facilitation at primary level so that the burden on the secondary level health care facilities is reduced. Furthermore, it also reveals that if efficient services are offered to public through insurance or community financing they will utilize these services up to the optimum level, which in turn will improve the health status of the nation. (Pak J Public Health 2012;2(2):19-24)

Key words: Health insurance, Utilization of health care, Preference for secondary level facilities, Pakistan.
Foundation, and industrial/commercial establishments with more than ten employees under a stipulated salary scale protected through a vertically-integrated health insurance system of Employees Social Security Institution (ESSI) (9). Broadly speaking, easy access to health facilities and affordability are the most important reasons which determine the utilization pattern of health care. In the present scenario, although in Pakistan, there are some mechanisms available, e.g., social health insurance, private health insurance, community health insurance, Takaful along with some forms of community financing on minor scale and existence of the informal sector (10). Along with all other forms of health care financing, to achieve the objective of easy accessibility and reducing out of pocket expenditure on health care, a proper insurance system for the masses is also required on a broader scale. Such a system can at least provide a safety net for the working class of the country.

In Pakistan health insurance by the public sector is in the form of Social Security Institution which caters the needs of only the population from lower socioeconomic strata employed by private organizations. This institute is the only organized public sector, job based health insurance system in Pakistan which provides both primary and secondary level health facilities. Established in March 1965 through an Ordinance (11), it has been functioning for more than four decades in three provinces, namely the Punjab, Khyber Pakhtunkhwa (KPK), and Sindh. It collects contributions from industry and then utilizes these resources to provide health care services to the insured employees. Social Security Hospital, Islamabad is under jurisdiction of Social Security Punjab (PESI) in which 34317 industrial units are registered. The number of insured workers is 765015, out of which 719817 are men, 45198 are women and their dependents are 4590090. It has a network of dispensaries and hospitals in major cities of Punjab, which are mostly situated near industries. There are 272 dispensaries and 11 hospitals with total bed strength of 1775. All the infrastructure of the institution is located in major industrial cities of Punjab including, Lahore, Multan, Okara, Faisalabad, Jauharabad, Sargodha, Dera Ghazi Khan, Muzaffargarh, Gujranwala, Sialkot, Gujrat, Rawalpindi and Islamabad (12).

This study provides a brief overview of services offered by Social Security hospital and dispensaries in the province of Punjab only. Although it is very limited in scope and area, it is still one form of insurance and prepaid health financing scheme present at local level in Pakistan. The objective of the study was therefore to determine socio demographic characteristics, pattern of services being provided and quality of services at social security hospital. Along with these objectives, the study also aimed at finding out the reasons for preferring social security hospital over private facilities and reasons for bypassing the primary health care facilities offered by social security hospital.

Methods
This cross-sectional descriptive study was conducted at Social Security Hospital Islamabad from August 2011 to October 2011. The study population was the total number of registered patients with the Social Security Hospital Islamabad i.e. 383856. Given 75% prevalence of the insured population availing the services offered by the hospital (p=0.75), with an error of e = 0.05, at 95% confidence Interval, sample size equivalent to 290 was determined (13). Insured workers reporting to hospital and have been registered with the institution at least for last six months were included in the study which were randomly selected by using simple random sampling technique. Data collection was done through structured questionnaire which was filled in the OPD. The questionnaire was pretested and validated. Variables included in the study were socio-demographic variables, preferences for social security health facilities, common illnesses for reporting to social security, visits per month, insistence to service provider for particular service (specific medicine/referral), use of social security facility despite affordability of private treatment, time consumed during travel to and from health facility, time given by service provider and his attitude, level of satisfaction with non-medical needs etc. All the study participants were given the same questionnaire and the data was entered in SPSS-19 on the same day to maintain quality. The study was done after the approval from ethical review committee of Health services Academy Islamabad and Social Security Hospital Islamabad and all the respondents were interviewed separately after informed consent.

Results
Socio-demographic characteristics
Out of total sample of 290, there were 266 (91.7%) male and 24 (8.3%) female respondents which show that insured workers utilizing the health facilities are predominantly men. Mean age of the respondents reporting at the hospital was 30, out of whom 78.6% were married in comparison to 21.4% unmarried respondents. Given the educational background, 32.4% of respondents were matriculates, 26.9% middle, 23.4% had primary level education.
of education, 11.7% were intermediate and 5.5% were bachelors.

**Pattern of services provided and its utilization**

Majority of the insured population utilizing Social security health Facilities had total monthly income between PKR 7000 and 15000 with the average family size of 5. With reference to type of illness, 40% utilized services for fever, 25.2% visited due to generalized body aches, 12.4% due to generalized weakness, 6.9% due to high blood pressure, 4.8% due to indigestion, 4.1% due to sore throat, 3.8% due to sugar, 2.1% due to gastroenteritis and 0.7% due to minor injuries. Average visits by insured population per month were 2 for the utilization of Social Security hospital health services. The average time to reach and come back from social security health facility is 110.10 minutes. Most of the insured population who visit spends 30 to 300 minutes to reach and come back for utilizing these health facilities.

**Quality of services at social security health facility**

Given the reasons for preferring Social Security health facilities, 56.6% of the insured population responded that they utilizes social security facilities due to entitlement, 31% due to convenience, 4.1% due to availability of female doctors, 3.1% utilize them given the perceived good quality of care, 2.1% due to good paramedical staff, 1.7% because of their trust in the doctors, and 0.7% utilize the services given its easy accessibility for women. Tables 1 summarize the data as follows:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entitlement</td>
<td>164</td>
<td>56.6</td>
</tr>
<tr>
<td>Difficult to pay at private health facility</td>
<td>92</td>
<td>31.7</td>
</tr>
<tr>
<td>It has good doctors / service provider</td>
<td>9</td>
<td>3.1</td>
</tr>
<tr>
<td>Paramedical staff is caring</td>
<td>6</td>
<td>2.1</td>
</tr>
<tr>
<td>There are female doctors available</td>
<td>12</td>
<td>4.1</td>
</tr>
<tr>
<td>I trust the doctors</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Women can visit the facility easily</td>
<td>2</td>
<td>.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>290</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

To understand further the quality of services and environment provided to the patients at hospital, a number of questions were asked. 83% responded that they were satisfied with the provision of clean drinking water, 87% were satisfied about latrines/toilets, 85% about cleanliness/hygiene, and 73.8% were satisfied about availability of seating facility in waiting areas. Given the attitude of doctors at hospital, 72% responded that service provider listen their problems carefully and majority seemed satisfied given the way they were treated by the doctors.

**Reasons for preferring Social Security hospital over private facilities**

To look into the reasons of utilization of Social Security Hospital Services over private facilities and other than entitlement, a number of questions were asked. 33.6% of the respondents mentioned that they utilize the services due to the provision of diet charges for admitted cases (@ Rs 100/day), 24.2% preferred the hospital because of 100% salary in case of injury, TB and Cancer whereas 1.7% preferred because of the job security while they are sick and 0.7% because of availability of insurance claim in case of physical disability or death due to industrial accident. 22.1% responded that they utilize the hospital given free services, 9.35% because of the availability of emergency cover, diagnostic and indoor facilities for 24 hours, 6.6% respondents felt a sense of ownership while utilizing social security health facilities, 1.0% preferred because of easy follow up due to proper record keeping and 0.7% prefer for the reason that only the medical leaves issued by Social Security Hospital are accepted by their employers.

**Reasons for bypassing social security primary health care facilities**

The study revealed that majority of the patients (82.6%) reporting at the Social Security hospitals are those who insist the doctors to refer them to the hospital despite the fact that they can be treated at the primary level. By looking into the reasons, the results revealed that 39.3% of insured population does not want to utilize social security dispensary services because specialist doctors are not available at dispensary, 37.6% because of lack of diagnostic facilities at dispensary, 6.0% because of poor quality of medicine, and 6.0% underutilized dispensaries because doctors gave medicines of their choice at hospital, 2.1% responded that medicines are not available in dispensary, 2.1% responded that female doctor is not available at dispensary. 1.3% insists for referral because they think that the doctors are not competent in the dispensary. 3.0% of insured workers responded that medicines are available in good quantity in hospital, 2.6% of insured workers responded that quality of medicines is better at hospital. Tables 2 summarize the data as follows:
unavailability of female health staff at health facilities is viewed as an impediment in females' health utilization (18).

Concern of service provider towards the problems of patient plays pivotal role in utilization of service. It is crucial to identify and measure the quality of the service provided to the patient for better assessment of the utilization patterns (19,20). As revealed by evidence generated in other countries of the world, apart from medical and related services, ambience and other non-medical needs also play significant role in health facilities utilization (21-23). In this study most of insured population showed their satisfaction about drinking water, cleanliness and seating arrangements in waiting areas. Conducive environment, free of cost services, entitlement, reimbursement facilities, role and attitude of service provider are also important reasons for utilization of Social Security Health services by insured population.

Limitations of the study
Study findings can not be generalized to informal sector of Pakistan. Only insured population reporting to Social Security Hospital, Islamabad was contacted /interviewed. Insured population from other hospitals of Social Security should also be contacted for generalization. It was a pilot study from the patient's perspective. The views of service providers should also be assessed regarding utilization of services by insured population.

Recommendations
The services are being offered to privately employed workers under the Social Security Act with a stipulated salary. These services should also be extended to self employed with the same income group. Ideally the scope of the institution should be broadened and anyone interested to utilize services should be allowed to be insured and his contribution should be adjusted according to his monthly income. This will also create a new avenue of earning for the institution.

The quality and quantity of medicines and basic routine investigation facilities should be improved at dispensaries. Moreover, in every city one medical specialist should be appointed to make scheduled visits to dispensaries for the provision of consultant services for routine cases. This will reduce the patient flow to secondary level facilities.

As doctors working at dispensaries (primary level facility) gradually become stagnant and not remain acquainted with latest modes of treatment and management so proper arrangements for their refresher courses should be made.

The institution should also establish its state of art

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>Medicine are not available in dispensary</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Quality of medicine is not good at dispensary</td>
<td>14</td>
<td>4.8</td>
</tr>
<tr>
<td>Quality of medicines is better at hospital</td>
<td>6</td>
<td>2.1</td>
</tr>
<tr>
<td>Medicines are available in good quantity in hospital</td>
<td>7</td>
<td>2.4</td>
</tr>
<tr>
<td>Doctors give medicines of my choice at hospital</td>
<td>14</td>
<td>4.8</td>
</tr>
<tr>
<td>Doctor is not competent at dispensary</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Female doctor is not available at dispensary</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Diagnostics facilities are not available in dispensary</td>
<td>88</td>
<td>30.3</td>
</tr>
<tr>
<td>Specialist doctors are not available at dispensary</td>
<td>92</td>
<td>31.7</td>
</tr>
</tbody>
</table>

Discussion
The results of the study revealed that major reason for utilization of Social Security health facilities is entitlement and high cost of private treatment. This has also been revealed by other studies that the utilization of health care actually increases with better financial status and health insurance coverage (14,15). Apart from entitlement, other provisions and facilities as revealed by the results also plays an important role (for example 100% salary in case of injury, TB and Cancer, emergency cover, indoor and diagnostics facilities for 24 hours etc). Interestingly, despite the fact that the average time required to reach and come back from the facility was round about 110 minutes, long duration required in certain cases was not found to be a barrier to utilize these facilities. This shows that if health facilities full fill the requirements of the clientele, then time and access are not the barriers in utilization and shows that distance from the facility do not play an important role in utilization of health services (16).

Results revealed that even those insured workers who could afford private treatment also preferred to utilize Social Security facilitation because of the good quality of care and better facilitation. However, majority of the patients also preferred the secondary level care in comparison to the primary level. Such a tendency is not uncommon throughout the country (17). Among the major reasons, few of them were the absence of specialist doctors at dispensary, lack of availability of diagnostic facilities and poor quality of medicine. Few of the respondents also found the absence of female doctors at primary level facility as a major inconvenience for them. In certain settings, especially, in developing countries
diagnostic centers equipped with latest machinery like MRI, CT Scan etc. This will not only provide facilities to insured population but also serve as a source of earning for the institution.

**Conclusion**

The study was focused to describe the pattern of services being provided, socioeconomic and related practices for utilization of services and reasons for utilization of secondary level health services without availing primary services by insured population at Social Security Hospital, Islamabad. Efficient health services, entitlement, availability of free services, 24 hours availability of emergency, quality and quantity of medicines being provided, provision of diet charges, reimbursement of claims, availability of 24 hours diagnostic facilities, and acceptability of medical leaves issued from Social Security by employers are the reasons responsible for utilization of health services by insured population at Social Security Hospital, Islamabad. Apart from above mentioned reasons, restricted timings of dispensary, i.e. 8:00 am to 2:00 pm, lack of diagnostic facilities, attitude of doctors/service providers, low quality and quantity of medicines, unavailability of specialist doctors at social security dispensaries are the contributory factors for utilization of secondary level facilities without availing primary level facilities (i.e. Dispensaries). Furthermore, majority of insured population rationally utilize the services provided to them.

It can be concluded that there is a need of pro-poor policies especially for health in developing countries. The study clearly indicates that in order to improve the health status of lower socioeconomic strata of society, broadening the scope of Social Security Institution is mandatory. Furthermore, it also proves that if efficient and needed services are offered to public through insurance or community financing they will utilize these services up to the optimum level, this will in turn improve the health status of the nation.

**References**

20. Jun M, Peterson RT, Zsidisin GA. The Identification and Measurement of Quality Dimensions in Health Care: Focus Group Interview Results. Health Care...
Evaluation and comparison of private and public sector incinerators of Rawalpindi and Islamabad hospitals

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Abstract:
Introduction: Improper disposal of medical wastes is an important public health issue in developing countries. The objective of the study was to evaluate and compare the prevailing practices of operation, maintenance and management of incinerators in private and public settings in accordance with PEPA guidelines.
Methods: An observational descriptive study carried out in three hospitals (Holy family hospital Rawalpindi, Shifa International Hospital Islamabad and Fauji Foundation hospital Rawalpindi).
Data was self collected by interviewing staff through structured questionnaire. Personal observations were made through a self developed check list according to PEPA guidelines and information given in questionnaire was counter checked.
Results: The study revealed that the incinerators installed both in public and private hospitals are not working 100% according to PEPA guidelines. The incinerator in holy family hospital is best and it’s working in accordance closer to PEPA guidelines. Risk waste generation is highest in Shifa hospital and marked deficiencies are observed in design, construction, sitting, operation and maintenance of incinerator including low temperature, non-functional scrubber system emission of dark smoke and obnoxious gases in environment. In Fauji Foundation hospital the specifications and working of incinerator do not meet PEPA recommendation and incinerator is working at low temperature without wet scrubber polluting environment with smoke and hazardous gases.
Conclusion: The study concluded that working of incinerators is in accordance with PEPA Guidelines in public hospital, while the incinerators in private hospital are not following PEPA guidelines. Low quality incinerators, wrong operating practices and poor monitoring by PEPA are the main problems for healthcare waste management. (Pak J Public Health 2012;2(2):25-30)
Keywords: Health care waste, Incineration, PEPA, Combustion, Dioxin, Emissions.
serious health hazards. Incinerator emission and related risks may be reduced by implementation of Pakistan Environmental Protection Agency (PEPA) emission standards, maintaining quality in operations control and periodic monitoring according to the PEPA guidelines. The aim of study is to assess and compare the prevailing practices of operation, maintenance and management of incinerators installed in public and private hospitals of Rawalpindi and Islamabad.

**Methods**

Direct observational descriptive survey carried out between August to October 2010 in three hospitals of Rawalpindi and Islamabad, i.e. 1) Holy Family Hospital (HFH), Rawalpindi (public hospital), 2) Shifa International Hospital (SIH), Islamabad (private hospital), and 3) Fauji Foundation Hospital (FFH), Rawalpindi, (Private hospital).

This study relied on multiple sources of evidence such as direct observation through a self-developed check list as per PEPA guidelines and self-developed structured questionnaire for the allied staff. Data was self collected by interviewing staff individually using structured mixed questionnaire. The whole incineration procedure was observed from segregation of hospital waste to shutdown of incinerators minimum three times for one hospital to assess current practices and compared with a self-developed checklist. Personal visits were made to final disposal site to observe disposal of ash.

Personal visit to office of PEPA was made to assess role of PEPA in monitoring of hospital waste incinerators.

Institutional consent was taken through an official letter signed on behalf of commandant AFPGMI. Individual consent was taken verbally before filling questionnaire. Personal assurance was given to hospital management that information given in the questionnaire will not be disclosed and will not be used for any official purpose.

**Results**

In Rawalpindi and Islamabad only few hospitals are using incinerator for waste disposal. Holy family hospital is the only public hospital using incinerator and Shifa International and Fauji Foundation are among the private hospital having functional incinerators.

The total waste and risk waste generated per bed per day is highest in Shifa hospital (2.2 kg/bed/day) among three hospitals, 1.58 kg/bed/day in Holy Family Hospital and Fuji Foundation generate least waste per bed per day i.e 1.1 kg/bed/day (Figure 1), so the amount of waste incinerated is more in Shifa hospital than holy family and Fauji Foundation hospitals.

The incinerator in holy family is of European make and has modern construction. The other two have locally made incinerators and quality is not maintained in design and construction. Wet scrubbers are available only in holy family hospital incinerator (Table 1).

In all three hospitals incinerators are installed in remote corner of hospital but still important buildings are in vicinity within 50 meters. The height of building is more than stack height around SIH and FFH while the height of stack is about 10 feet, higher than nearby building around HFH. Only in HFH the Incinerator is installed in a separate room constructed according to incinerator dimensions and waste is stored before being incinerated in an air conditioned storage room built next to the incinerator. While in two other hospitals incinerator sited in separate but improperly built rooms. In FFH, storage area is far from incinerator while in SIH it is nearby but not adjacent. Standard Operative Procedures for operation and maintenance of incinerators are posted in room only in HFH.

The key elements for complete combustion are pre-heating and maintenance of optimum temperature in primary and secondary chambers during complete cycle of operation. Preheating is practiced only in holy family hospital and temperature is also smokeless. On the other hand cold start is practiced and temperature is not maintained at recommended level in two other hospitals and emissions are not smokeless. The lowest mean temperature is observed in Shifa hospital...
Safety of workers is neglected in all three hospitals. The staff handling incinerator use only gloves and mask to protect them.

Stack emissions are neither tested for dioxin nor for temperature in any of hospitals. Emissions are smokeless in holy family hospital but dark smoke is noticed in Shifa International and Fauji foundation hospitals. Environment impact assessment (EIA) is not done before installation in any of these hospitals nor License from PEPA is obtained. Monitory visits are also not done by PEPA on regular basis (Table 2).

In SHI, ash is disposed off safely in a covered deep clay well pit lined with lime.

In HFH the ash is removed manually and disposed off in non insulated pit at the back of incinerator room and it is covered daily by sand to prevent scavenging.

But in FFH, unsafe practice of disposing ash to nullah in forest which flows to Sawan River is observed.

In both private hospitals, staff includes one supervisor assisted by sanitary worker. The supervisor is trained by manufacturer but sanitary worker is untrained and has poor knowledge about incinerator. Staff in both private and public hospitals did not receive any refresher training. Operating manual is not available with operator in any of three hospitals.
Table 1: Comparison of specifications of incinerator

<table>
<thead>
<tr>
<th>Parameters</th>
<th>PEPA Standards</th>
<th>HFH</th>
<th>SiH</th>
<th>FFH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment impact assessment</td>
<td>EIA should be done before installation</td>
<td>Not done</td>
<td>Not done</td>
<td>Not done</td>
</tr>
<tr>
<td>Type</td>
<td>Double chamber (Minimum)</td>
<td>Triple chamber</td>
<td>Double chamber</td>
<td>Triple chamber</td>
</tr>
<tr>
<td>Capacity</td>
<td>≥500kg/hour</td>
<td>120kg/hour</td>
<td>100kg/hour</td>
<td>70kg/hour</td>
</tr>
<tr>
<td>Temperature of primary chamber</td>
<td>600-800°C</td>
<td>900°C</td>
<td>490°C</td>
<td>600°C</td>
</tr>
<tr>
<td>Temperature of secondary chamber</td>
<td>900-1200°C</td>
<td>1100°C</td>
<td>630°C</td>
<td>800°C</td>
</tr>
<tr>
<td>Gas burner</td>
<td>Separate burner for each chamber</td>
<td>Provided</td>
<td>Provided</td>
<td>Provided</td>
</tr>
<tr>
<td>Temperature of control panel</td>
<td>Automatic</td>
<td>Provided</td>
<td>Provided</td>
<td>Provided</td>
</tr>
<tr>
<td>Relation of stack to height of nearest building</td>
<td>≥10 feet to nearest building</td>
<td>≥10 feet</td>
<td>≤10 feet</td>
<td>≤10 feet</td>
</tr>
<tr>
<td>Air pollution control device</td>
<td>High pressure ventur scrubber system</td>
<td>Wet scrubber</td>
<td>scrubber (Out of order)</td>
<td>Blowers</td>
</tr>
<tr>
<td>Protective gears</td>
<td>Heavy duty gloves, mask, boot, apron, eye protector.</td>
<td>Heavy duty gloves &amp; mask</td>
<td>Ordinary gloves and mask</td>
<td>Ordinary gloves and mask</td>
</tr>
<tr>
<td>Fire safety</td>
<td>Fire extinguisher should be available within room</td>
<td>available</td>
<td>not available</td>
<td>not available</td>
</tr>
<tr>
<td>Emissions monitoring</td>
<td>Hospital responsible to monitor stack emission</td>
<td>Not done</td>
<td>Not done</td>
<td>Not done</td>
</tr>
<tr>
<td>Display of SOPs</td>
<td>Posted in room</td>
<td>Posted</td>
<td>not posted</td>
<td>not posted</td>
</tr>
<tr>
<td>Ash disposal</td>
<td>safely in insulated pits</td>
<td>Non insulated pits, insulated pits</td>
<td>Nullah water</td>
<td></td>
</tr>
<tr>
<td>Record keeping</td>
<td>Record for waste incinerated and ash disposal should be kept by hospital</td>
<td>Not maintained</td>
<td>Not maintained</td>
<td>Not maintained</td>
</tr>
</tbody>
</table>
Discussion

Incineration is a common and most widely used method of health care waste disposal throughout the world; on the other hand incinerators for medical waste are related to severe public health hazards and atmospheric pollution.

Most risks of incineration are due to incomplete combustion, the main reasons for which are inadequate equipment, improper operation and inappropriate temperature. A modern well-tuned, properly operated incinerator markedly reduces the risk associated with the incinerator. The research about incinerators mainly focuses on measuring dioxin from emissions and heavy metals in residual ash and related health hazards but most of the studies concluded that the deficiencies in management practices lead to hazardous emissions from incinerators so in developing countries like Pakistan where the field of health care waste management is under developed and the facilities for dioxin detection are unaffordable primary focus should be on proper operation and management of the incinerators.

This study was conducted in three hospitals of twin cities using own facility for incineration which reveal that there are deficiencies in sitting, construction, operation, monitoring and maintenance of these incinerators. Only the holy family hospitals is working near to PEPA guidelines in construction and operation but still deficiencies observed in safety, ash disposal and sitting of incinerator. In Shifa and Fauji foundation hospitals the temperature is below the standard levels as well as temperature is not maintained during operation and pre-heating of incinerators is also not done leading to incomplete combustion of waste and hazardous emissions. The PEPA has clearly stated that no incinerator should operate without APCD (3). A study done in China also revealed that use of APCD in incinerators decreases the dioxin emissions in flue gases (4). In this study, smokeless emissions are also noticed in HFH using wet scrubbers while dark smoke is noticed in SIH and FFH working without scrubber.

In a survey done by WHO in 2004 (1) the use, maintenance and management of medical waste incinerators was evaluated in four developing countries by rapid assessment techniques and the emissions were also measured and wide spread deficiencies in construction, sitting, operation and management of these units were observed which are similar to result of this study.

A research done in Thailand (5) also concentrates on incinerators and proved experimentally that the optimum operating conditions are necessary for complete combustion. This is basis of this study too.

A study done in Rawalpindi and Islamabad revealed high level of lead and zinc in ash from incinerators of different hospitals of twin city (6). It also concluded that variation in concentration of heavy metals is attributed to variety in hospital waste composition, design of incinerators and operating conditions.

Conclusion

The study revealed that incinerators installed both in public and private hospitals are not working 100% according to PEPA guidelines. The incinerator in HFH is comparatively best in design and construction among three hospitals and its working confirm PEPA guidelines in most of aspects and only few wrong practices are observed.

The amount of risk waste generated is highest in SIH among three hospitals moreover incinerators work continuously from morning till evening. A number of deficiencies are observed in design, construction, sitting, operation and maintenance of incinerator in SIH as well wrong practices are maximum here. Dark smoke emissions can be observed daily. In FFH, the specifications and working of incinerator do not meet PEPA recommendation but wrong practices are few except ash disposal to nullah.

It is concluded that at present only HFH has three chambers PEPA approved incinerator in Rawalpindi while others private hospitals are not as per PEPA specification and they are installed against the rule and contributing to atmospheric pollution.

Moreover the choice of right incinerator, proper segregation, transportation & storage of hospital waste, proper disposal of ash, training of staff, appropriate use of incinerator, efficient monitoring and supervision of incinerators, strict monitoring by PEPA, adherence to national/international laws of hospital waste disposal and legislative actions against violators are the steps needed to tackle this important public health issue.

References

Available from:


A mixed method research for assessment of health and social indicators in urban slums of Rawalpindi, Pakistan.

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Abstract:
Introduction: In Pakistan an increased rural to urban migration has created problems of planning and development in urban areas and resulted in increased slum area. This research was conducted with the background that health inequalities both between and within countries persist, and slums have very poor health and social indicators. This study was done in slums of Rawalpindi where slums comprise about 17% of total population of Rawalpindi city.

Methods: It was a mixed method study; initially a quantitative survey with sample of two thousand women was done through a semi-structured questionnaire and later on focus group discussions were conducted for qualitative research. Six focus groups discussions were conducted; four with housewives of slum areas, one with General Practitioners and one with elected political representatives. Survey data was analysed in SPSS-16.

Results: Results showed high level of illiteracy with 63.2% men and 75.3.4% women having no education. About 30% of women married within age of 15-24 years had four or more children. Most families had only one working member. Most common occupations (36.5%) were street vendors, garbage collectors, trash vendor and daily wage labourer; and 17% were unemployed. Most houses had electricity (95%) and toilets (94%) inside their house. Many children had an episode of diarrhea (66%) or ARI (38%) in the preceding month. About 49% of the houses reported that nearest government health facility is within one kilometre distance, while for 23% houses, there was no government health facility within 5 kilometres distance. About 34% of uneducated mothers had four or more children while only 1.4% of those with higher education had 4 or more children. Less educated mothers were breast feeding their children completely and half of them were starting weaning at appropriate time. Positive relationship was there between mother education and children going to school; less diarrhoea and ARI, while there was negative relationship of mother’s education on breastfeeding. The results were significant.

Conclusion: The research indicated health inequalities that need to be factored in the planning and development process of the city. Attention needs to be paid to the provision of quality health care, safe drinking water, garbage collection and disposal, and other basic amenities of life. The research highlighted the deficiencies and lapses in basic health facilities for most deserving and marginalized population of city. (Pak J Public Health 2012;2(2):31-5)

Key Words: Slums, Inequity, Health problems, Rawalpindi, Pakistan.

Introduction
Increasing urbanization has resulted in almost 3 billion people living in cities, which over the next 25 years is expected to increase to nearly 5 billion (1). Much of this growth will occur in less developed countries in Asia where urban populations will more than double. Slum populations are also expected to grow roughly in line with overall global urban population, increasing from 924 million to 2 billion over next three decades (2). Health inequalities both between and within countries persist, for almost all diseases and health problems and slums have very poor health and social indicators (3). Within countries, progress on redressing health inequalities is uneven and data are not always available over time (4,5). There has been an increasing concern over poor living conditions in slums and it was explicitly addressed in the Millennium Development Goal Seven (MDG-7), Target-11, which is to improve the lives of a minimum of 100 million slum dwellers by the year 2020 (6). The urban population in Pakistan grew faster than rural growth, changing the proportion of urban population from 17.7 percent in 1951 to nearly 33 percent in 1998 (7). This increased flux of migration towards cities has created problems of planning and development in urban areas and also resulted in increased slum area.

Rawalpindi is sixth largest city of Pakistan and current population of Rawalpindi District is 3,991,000 with 51.2% males and 48.8% females. The percentage breakup of the rural and urban population is 53.3 and 46.7 respectively which shows that almost half of the district population lives in rural area. Crude birth rate in Rawalpindi is 31.5 per 1000 as compared to 31 per 1000 at national level (8). Literacy rate is 87% and 68% for males and
females respectively. Population density is 637 persons per square kilometre. Dependency and vulnerability rates are quite high with 47 percent of the population classifiable as dependent. The Water and Sanitation Authority (WASA) Rawalpindi provides water and sanitation services to population spread over area of 35 sq km; piped sewerage system covers only 35% of city population. A stream of water mixed with sewage from the city, the Nullah Lai passes through the city. The remaining areas are drained by open drains into the Nullah Lai. Most slum areas are present in pockets along banks and tributaries of this Nullah. These slums comprise about 17-18% population of Rawalpindi city. This study aimed at probing into the health inequalities in urban slums in Rawalpindi, Pakistan.

Methods
It was a mixed method research with both qualitative and quantitative data collection done from September to November 2009. Initially, several meetings were held to engage District Health Authorities and Lady Health Workers (LHWs). Subsequently, private general practitioners and doctors working in public sector municipal dispensaries were also visited and interviewed.

For quantitative survey a sample size of 2000 households was used based on an estimated proportion of 22% women of childbearing age, the confidence interval 95%, precision 3% and design effect of 2.5. Forty LHWs were selected from the major slum areas located in Rawalpindi city, falling within their own catchment populations. They were trained to collect household data from housewives residing in slum areas of Rawalpindi. The houses were selected randomly and consent sought from the housewives. During the process of data collection LHWs were monitored to oversee quality of field work being carried out. The data was first entered into Microsoft Excel and after cleaning it was transported to SPSS version 16 for analysis. Frequencies for different quantitative variables were determined and through applying Pearson Chi Square test associations were determined.

For the qualitative research methods, five female doctors were trained on various aspects of Focus Group Discussions (FGDs). In total six FGDs were conducted. Four FGDs were done with housewives in slum areas, one FGD with GPs and one with the elected representatives (Nazims) of slum areas. LHWs were sent a day before into the field to randomly select and seek consent of housewives and finalize arrangements for the FGDs. A field guide was developed in the local language for these FGDs. Each FGD had eight to twelve participants; discussion was noted as well as recorded. Moderator of FGD introduced herself to the participants and asked for introductions and then floated questions. The questions covered various areas including health facilities, their accessibility, prevalence of communicable and non communicable diseases, medical camps, water-borne diseases, perceptions about healthy diet, child health, malnutrition and socioeconomic factors, availability of roads, electricity and sanitation. The questions were discussed and their responses noted and recorded. The transcribed data was analyzed by using content analysis method. At first stage segments and sub-segments of information were organized. Subsequently significant information related to research objectives was extracted. At second stage, the common views of respondents were put together and merged at one place.

Results
Quantitative
In 2,000 families interviewed, 36.5% of the husbands had their own small businesses which were further classified into common vendors to small businesses such as garbage collection. 33.3% were employed formally, and 17% were unemployed. The education of mother in the slum areas where 75.3% of the house wives were uneducated, only 10.4% reached primary level of education and 8.3% reached the secondary level. Just 6.0% had reached more than secondary level of education. This again shows that most of the women in these areas are uneducated which resulted in early marriage and higher number of children. Education trends are shown in the Table 1. The results shows that 63.2% of the men in these areas were uneducated and only 17.6% had primary level education. Only 10.1% had secondary level of education and 9.1% were able to attain college level education. 83.4% of the families had only one working member; 12.8% families had 2-3 working members while 3.8% had 4-5 working members. This shows that the vast majority of families had usually one bread earner on which the whole family members were dependent. Results depict that 95.55% of the households had electricity and only 4.45% were not getting electricity. Data revealed that majority of residents (94.45%) had toilets at home.

For half of the homes (49%), the government Heath Facility was within 1 km area while 28% of the population had to travel more than 1 km to address their health needs. In 23% cases there was no health facility within reach. About 30% of women who married early (15-20 Year age) had 4 or more children while among those marrying late the number of children was less. (Chi-Sq Value 24.63, df=4, p=0.000). Total income showed inverse...
association with number of children. 19.6% of low income (between Rs 1000-3000) had 4 or more children; whereas this percentage was 10.8% for Rs. 5000 or more. (Chi-Sq Value 24.63; df=4, p=0.000).

About 34% of uneducated mothers had four or more children while only 1.4% of those with higher education had 4 or more number of children. These results were statistically significant. (Chi-Sq Value 88.392, df=6, p=0.000). Uneducated fathers had higher trends of live births. 28.8% of uneducated men had 4 or more number of children while only 2.8% of those with higher education had 4 or more number of live births. These results were statistically significant (Chi-Sq Value 53.836, df=6, p=0.000). Uneducated mother had no children attending school while in educated mothers percentage of no child going school was only 2.3%. (Chi-Sq Value 9.353, df=6, p=0.155). As in case of the mother, a similar association was seen with education of the father and number of children going to school. (Chi-Sq Value 35.804, df=6, p=0.000). 51.5% of children of uneducated mothers developed diarrhea and only 2.9% of highly educated mothers children developed diarrhea in last one month. (Chi-Sq Value 22.314, df=3, p=0.000). 29% children of uneducated mothers had ARI during previous one month but only 1% children of educated mothers had history of ARI. (Chi-Sq Value 25.137, df=3, p=0.000).

66.6% children had one or more episode of diarrhea during the last one month while 33.4% of the children living in these areas had not had any diarrhea episode during the last 03 months. 37.85% children had one or more episode of ARI during the last one month. To see the association of nearest health facility with presence of ORS at home, negative association of nearest health facility with presence of ORS at home was noticed. (Chi-Sq Value 3.987, df=3, p=0.000). In case of sickness of mother 43.3 % visited government hospitals or dispensaries, 42.5% visited a general practitioner (GP), 11% visited a traditional Hakim.

Among mothers with no education 55.8 % completely breast fed their children and those with higher education only 4.6% completely breast fed their children. 44.2% mother started weaning children at less than 6 months of age and 55.8% start after 6 months. 39.4% of children had injuries at home and 10.5% outside the home.

<table>
<thead>
<tr>
<th>Breast Feeding</th>
<th>No</th>
<th>Incomplete</th>
<th>Complete</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Educated</td>
<td>51</td>
<td>338</td>
<td>1117</td>
<td>1506</td>
</tr>
<tr>
<td>% of Total</td>
<td>2.6%</td>
<td>16.9%</td>
<td>55.8%</td>
<td>75.3%</td>
</tr>
<tr>
<td>Primary</td>
<td>12</td>
<td>41</td>
<td>154</td>
<td>207</td>
</tr>
<tr>
<td>% of Total</td>
<td>6%</td>
<td>2.0%</td>
<td>7.7%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Education of mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>8</td>
<td>9</td>
<td>149</td>
<td>166</td>
</tr>
<tr>
<td>% of Total</td>
<td>4%</td>
<td>4%</td>
<td>7.4%</td>
<td>8.3%</td>
</tr>
<tr>
<td>Higher Education</td>
<td>5</td>
<td>25</td>
<td>91</td>
<td>121</td>
</tr>
<tr>
<td>% of Total</td>
<td>2%</td>
<td>1.2%</td>
<td>4.6%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
<td>413</td>
<td>1511</td>
<td>2000</td>
</tr>
<tr>
<td>% of Total</td>
<td>3.8%</td>
<td>20.6%</td>
<td>75.6%</td>
<td>100%</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 29.253, df=2, p=0.000 \]
A comparison of the health and social indicators of slum area was done with the overall indicators of Rawalpindi District (from MICS 2008) and with Punjab. Most indicators for the slum area of Rawalpindi were much poorer than overall District and Punjab, showing issues of inequity (Table 2).

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Rawalpindi Slum</th>
<th>Rawalpindi District*</th>
<th>Punjab*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Literacy rate</td>
<td>30.75%</td>
<td>81%</td>
<td>54%</td>
</tr>
<tr>
<td>Unemployment</td>
<td>17%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Physical access? (access) to drinking water</td>
<td>67.2%</td>
<td>76%</td>
<td>92%</td>
</tr>
<tr>
<td>Adequate sanitary excreta</td>
<td>73.2%</td>
<td>85%</td>
<td>70%</td>
</tr>
<tr>
<td>Physical access to health care</td>
<td>49.5%</td>
<td>82%</td>
<td>75%</td>
</tr>
<tr>
<td>Prevalence of diarrhea (last 30 days)</td>
<td>66.6%</td>
<td>2.7%</td>
<td>7.8%</td>
</tr>
<tr>
<td>Use of oral rehydration therapy (ORT)</td>
<td>35.2%</td>
<td>65%</td>
<td>47%</td>
</tr>
<tr>
<td>Exclusive breast feeding</td>
<td>75.6%</td>
<td>50%</td>
<td>49%</td>
</tr>
<tr>
<td>Married women aged 15-19 years</td>
<td>81.6%</td>
<td>1.7%</td>
<td>3.25%</td>
</tr>
</tbody>
</table>


Qualitative
The analysis of the qualitative research highlighted many problems like issues of access to health facilities. In case of emergency at night the slum dwellers had to hire private vehicle to reach hospital. The issue of high fee charged by private doctors was also mentioned during the discussions. According to private practitioners in the area, there was significant burden of non-communicable diseases such as hypertension and diabetes, and communicable diseases such as Tuberculosis, Hepatitis and Malaria. It was also highlighted that there is high incidence of deaths in the first year of life, presence of some form of mental illness, especially depression due to financial crises. Alcohol and other forms of addiction were common despite the poverty and all such substances were being sold unchecked. There was also the lack of knowledge about healthy diet. There was a marked preference for sending the male child to school. There were issues of non-availability of roads, absence of proper garbage disposal system and very poor conditions of environmental sanitation.

Discussion
This survey showed a trend of early marriages where most housewives interviewed were in the younger age group, much higher figure than overall figure of Rawalpindi (9). Most women were uneducated, the family size was larger; most belonged to low socioeconomic group, men employed as small shopkeepers or vendors, or having low paid jobs indicating the concentration of poverty similar to other studies in slums (3). Although there was electricity, water supply and flush type toilet system in most houses, overall conditions of environmental sanitation was very poor. Half of areas had accessibility of government health facilities in the vicinity, but majority mothers were attending private clinics with spending out of pocket for using health service. Many children sustained injuries at home most of the time but injuries were not very significant. Diarrhea and ARI were common among children. The significant association of less education with early marriages and many health risk factors and larger family size signifies the importance of education on health social well-being (2). There was association between education of mother and father with history of diarrhea, ARI and the number of school going children. But one interesting finding was that less educated mothers were breast feeding their children completely and half of them were starting weaning at appropriate time, as compared to educated mothers. Most of the indicators of slum areas of Rawalpindi were very poor as compared to the overall indicators of Rawalpindi and Punjab province showing huge inequity within the district (10).
Conclusion and Recommendations
Improving the health of urban residents, particularly those living in slum areas, requires an integrated approach. Attention needs to be paid to provision of quality health care, safe drinking water, garbage collection and disposal, and other basic amenities of life. Empowering interventions that target capacity development and skill transfer of individuals and community groups can affect slum dwellers’ health. Non-governmental organizations, training institutions, and international development partners are best placed to facilitate horizontal relationships between individuals, community groups, and vertical relationships with more powerful institutions that affect the slum dwellers' lives.

References
A cross-sectional study on eating habits and food related beliefs and knowledge in university students of Karachi, Pakistan

Sayeeda Amber Sayed

Abstract:
Introduction: Sound nutritional practices abound in different socio-cultural groups. A spectrum of diseases ranging from malnutrition to optimal health can often be prevented or alleviated with better nutrition. Deficiencies, excesses and imbalances in diet can produce negative impacts on health, which may lead to diseases and psychological and behavioral problems. The development and persistence of certain food habits is a combination of bio-psychological, infrastructural, politico-ideological and economic factors. Objectives of the study were to assess eating habits, nutrition-related beliefs and knowledge in university students of Karachi, Pakistan.

Methods: A cross-sectional survey of 260 university students in various institutes of Karachi, Pakistan is carried out from March-June 2011. Data is collected by means of self-administered questionnaires to elicit information on health, lifestyle, and usual food intake. Statistical analyses were performed using the Statistical Package for Social Sciences software (version 17.0) to determine eating habits and food related beliefs.

Results: Less than half of the university students had eaten food from all five core food groups (cereals, fruit, vegetables, dairy products and meat) daily during the previous week. Knowledge of minimum core food requirements for adolescent health was poor. The major sources of information about food and nutrition were parents, internet, television and magazines, with internet reported to be an important information source for university students.

Conclusion: The meal and snack pattern in Pakistani students is very close to the traditional model. For effectively promoting core foods to young people, partnership for health must also include the food industries. Parents, internet and television are the major sources of nutrition information which provides an opportunity to the media and universities to contribute useful nutrition information to improve the adolescent health. Monitoring nutritional requirements and eating habits of youth is essential to improve the health of the nation.

Keywords: Nutritional practices, Eating habits, Health promotion, Pakistan.
packaging. But in developing countries, Nutrition education seems a distant dream. The universities can contribute significantly to promote healthy eating habits among the young population (9,10). Universities can provide an ideal forum for reaching out to a large number of young adults through nutrition education programs which can positively influence students' eating habits by advocating adoption of healthy food choices. Assessing students eating habits and nutritional knowledge will help health managers to develop proper nutrition-related education programs that promote healthy food choices and good eating habits (11).

The association between nutrition and health has been established. Sound nutrition knowledge could be a key to healthy dietary attitudes and practices, which leads to a healthy body and protects against several diseases (12). Healthy dietary habits established in childhood may also be carried over into adulthood. The objectives of this research are to assess eating habits and some food related behaviors in university students of Karachi, Pakistan; examine nutrition-related beliefs in university students of Karachi; and determine university student's knowledge adequacy regarding the minimum dietary requirements

Methods
A cross-sectional study was conducted in university students of Karachi. A sample of 260 students (44 %males and 56% females participated in this study. Students were recruited through Non Probability convenient sampling by the researcher. The response rate among students was 100%. Prior to questionnaire administration, all students were briefed about the study objectives and written consent was obtained from the university students. Students who were sick and using nutritional supplements were not included in the study.

Data is collected through a self-administered questionnaire which was composed of three major sections: 1) Health-related attitudes such as substances used, dieting, health practices; 2) Beliefs concerning behavior and health, including eating habits; 3) Knowledge, namely relevance of factors to diseases such as cancer, obesity or cardiovascular diseases. The data collection was done during September 2010 to April 2011. Statistical analyses were performed using the Statistical Package for Social Sciences (version 16.0, SPSS, Inc) software. Results were expressed as means ± SD (standard deviation). Non-Parametric variables were analyzed using chi-square and 'p' values less than 0.05 were considered statistically significant.

Results
Sample Characteristics A total of 260 students participated in the study which included 44% males and 56% females. Their ages ranged from 18 to 30 years with mean age of 23.23 years. The demographic characteristics are shown

Eating habits
Low daily dietary intakes were reported for green vegetables, egg, fish and dairy products with only 34% eating at least one fruit, one vegetable, one dairy product and one core cereal food daily. High fat and high sugar containing food intake was very high. 70 % students ate high fat savory foods and 83% ate high sugar foods at least six times during the week. Majority (70.4%) of the students was taking lunch and dinner regularly.

Priority food intake in terms of days of the week included chicken, rice and fruit juices. 95% of the students were eating chicken seven days a week. Regarding serving size, 80% percent of the students stated that they take medium servings of bread, rice, chips, fruits, tea and coffee.

Knowledge regarding minimum dietary requirements
The knowledge regarding minimum amount of food intake for healthy living, majority students (68%) responded inaccurately .When probed in detail, 46% students didn't know about the minimum amount of fluid intake, almost 50% participants did not know about the minimum required servings of bread and rice. 46.5% participants did not know about the minimum dietary requirement of milk.Only 35% of the surveyed population responded correctly to the number of fruits and vegetables recommended daily (collectively- five to six servings).

Nutritional Practices
The unhealthy eating practice was indicated by the fact that the majority 31% of the students reported eating fried food more than three times per week. 37 percent of students regularly skipped breakfast. Daily intake of snacks apart from regular meals was 80%. Most of the students (65%) were taking tea at least 3 times a day.83.4 % were having cakes and biscuits daily, followed by 79% consuming soft drinks daily and 44% reported eating take away fast foods at least 4-5 times a week. 43 percent of students reported that they currently dieted to reduce weight and 36% reported that their weight feels to be out of control (Table 2).

58% percent of the respondents were aware of the recommendations to decrease fat, sugar, and salt intake, and 65% agreed that it was healthy to increase fiber, fruit, and vegetable intake. The highest proportions of students 94% were aware of a relationship between high fat intake and disease and 85 % of the students were aware of the recommendation to reduce saturated fat in diet. 69% agreed that excessive intake of fried food is bad for health.
and 40% reported that red meat is not good for health. 35% students knew of health risks associated with low fiber intake. A high percentage (62%) of the students reported family history of diabetes, hypertension or high level of cholesterol (Table 3).

Sources of information regarding food
Majority (86%) Students reported that the information about the foods and nutritional requirements were obtained through parents, 74% acquired information from the internet and 72% gained knowledge through television programs followed by friends and magazines (Table 1).

Discussion
This study aimed to determine the food and nutrition-related beliefs, habits and knowledge among the University Students of Karachi. It was found that less than half of these adolescents had eaten food from all five core food groups (cereals, fruit, vegetables, dairy products and the meat group) every day in the previous week, and the proportion was much lower if the fruit juices were excluded. However, many of them had consumed non-core foods items frequently. Such eating habits may increase the future risk of a number of diseases including osteoporosis, heart disease, some cancers, obesity and the associated non-insulin dependent diabetes, constipation, and diverticular disease (13). The importance of health promotion at the disease prevention stage cannot be overstated and health nutrition and education programs should be implemented for university students (14).

While majority of the students (68%) reported that there is a minimum food intake required for health, only about a quarter reported knowing the quantities of core foods required. However, many of these did not correctly identify core food requirements and not one student correctly identified the minimum intake for all five core foods. Knowledge of core food requirements is a specialized knowledge (15), and cannot be acquired by accident or by superficial teaching. A deeper understanding of information is required to make it a practice.

The Healthy people 2010 objectives include a focus on nutrition and obesity prevention (16). In this study, data analyses of students' eating habits revealed that the majority (52.7%) students eat meals two times per day but skipped breakfast on a daily basis. As expected, intake of
Table 2: Some Nutritional practices of students

<table>
<thead>
<tr>
<th>Nutritional practice</th>
<th>Days in a week</th>
<th>N=260</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eating wholegrain foods</td>
<td>1-2 days</td>
<td>63</td>
<td>24.2</td>
</tr>
<tr>
<td></td>
<td>3-5 days</td>
<td>62</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td>6-7 days</td>
<td>62</td>
<td>23.8</td>
</tr>
<tr>
<td></td>
<td>0 day</td>
<td>73</td>
<td>28.1</td>
</tr>
<tr>
<td></td>
<td>1-2 days</td>
<td>38</td>
<td>14.6</td>
</tr>
<tr>
<td></td>
<td>3-5 days</td>
<td>64</td>
<td>24.6</td>
</tr>
<tr>
<td>Drinking milk</td>
<td>6-7 days</td>
<td>47</td>
<td>18.1</td>
</tr>
<tr>
<td></td>
<td>0 day</td>
<td>111</td>
<td>42.7</td>
</tr>
<tr>
<td></td>
<td>1-2 days</td>
<td>35</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>3-5 days</td>
<td>74</td>
<td>28.5</td>
</tr>
<tr>
<td>Eating breakfast</td>
<td>6-7 days</td>
<td>116</td>
<td>44.6</td>
</tr>
<tr>
<td></td>
<td>0 day</td>
<td>35</td>
<td>13.5</td>
</tr>
<tr>
<td></td>
<td>1-3 days</td>
<td>70</td>
<td>26.9</td>
</tr>
<tr>
<td></td>
<td>4-6 days</td>
<td>112</td>
<td>43.1</td>
</tr>
<tr>
<td>Eating snacks apart from regular meals</td>
<td>7 days a week</td>
<td>37</td>
<td>14.2</td>
</tr>
<tr>
<td></td>
<td>0 day</td>
<td>41</td>
<td>15.8</td>
</tr>
<tr>
<td></td>
<td>1-2 days</td>
<td>49</td>
<td>18.8</td>
</tr>
<tr>
<td>Adding salt to the meals</td>
<td>3-5 days</td>
<td>37</td>
<td>14.2</td>
</tr>
<tr>
<td></td>
<td>6-7 days</td>
<td>74</td>
<td>28.5</td>
</tr>
<tr>
<td></td>
<td>0 day</td>
<td>100</td>
<td>38.5</td>
</tr>
</tbody>
</table>

Table 3: Student’s response to questions related to their Nutritional beliefs

<table>
<thead>
<tr>
<th>Statements</th>
<th>Responses</th>
<th>N=260</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The food I eat plays a role in my overall health</td>
<td>strongly disagree</td>
<td>16</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>disagree</td>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td></td>
<td>not sure</td>
<td>20</td>
<td>7.7</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>119</td>
<td>45.8</td>
</tr>
<tr>
<td></td>
<td>strongly agree</td>
<td>95</td>
<td>36.5</td>
</tr>
<tr>
<td>Too much fat in the diet may lead to heart disease</td>
<td>strongly disagree</td>
<td>8</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>disagree</td>
<td>3</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>not sure</td>
<td>5</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>124</td>
<td>47.7</td>
</tr>
<tr>
<td></td>
<td>strongly agree</td>
<td>120</td>
<td>46.2</td>
</tr>
<tr>
<td>Most people need to take vitamin and mineral pills</td>
<td>strongly disagree</td>
<td>13</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td>disagree</td>
<td>78</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>not sure</td>
<td>78</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>55</td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td>strongly agree</td>
<td>36</td>
<td>13.8</td>
</tr>
<tr>
<td>Everyone needs to add salt to their food</td>
<td>strongly disagree</td>
<td>43</td>
<td>16.5</td>
</tr>
<tr>
<td></td>
<td>disagree</td>
<td>107</td>
<td>41.2</td>
</tr>
<tr>
<td></td>
<td>not sure</td>
<td>31</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>55</td>
<td>21.2</td>
</tr>
<tr>
<td></td>
<td>strongly agree</td>
<td>24</td>
<td>9.2</td>
</tr>
<tr>
<td>Raw sugar is better than white sugar</td>
<td>strongly disagree</td>
<td>21</td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td>disagree</td>
<td>27</td>
<td>10.4</td>
</tr>
<tr>
<td></td>
<td>not sure</td>
<td>109</td>
<td>41.9</td>
</tr>
<tr>
<td></td>
<td>agree</td>
<td>73</td>
<td>28.1</td>
</tr>
<tr>
<td></td>
<td>strongly agree</td>
<td>30</td>
<td>11.5</td>
</tr>
</tbody>
</table>
soft drinks, high sugary foods and fat containing foods was common among students. Though the majority of students believed that eating meat, vegetables and other foods will provide them with a balanced diet. A study conducted at Midwestern University reported that 94.4% of the students agreed that it is important to eat a variety of foods for good health (17). In another study, healthful diet was classified as a diet that included more fruits and vegetables, and less fat (18,19).

In terms of eating habits, university students usually do not follow healthy eating habits. The typical university student diet is high in fat and low in fruits and vegetables (20). Students often select fast food due to its palatability, availability and convenience. Frequent snacking is acknowledged to be the common behavior and many students have been shown to regularly skip breakfast. Previous studies have also reported a higher frequency of breakfast skipping among female adolescents (21,22). This finding is consistent with the study conducted in United States in 2001 which reported the high prevalence of snacking and fast food consumption in the youth (23,24). The unhealthy eating habit of students was noticed in the intake of fried food (majority reported eating fried food three or four times per week). Frequent snacking and eating fried food can adversely affect students' health status, given the abundance of energy dense and high fat ingredients they contain. Improving students' knowledge about nutrition and healthy eating habits may promote healthy lifestyle among students. A recent study conducted among college students reported that increased knowledge of dietary guidance, Dietary Guidelines for Americans 2005, appeared to be positively related to healthier eating patterns thus the better eaters had a higher level of knowledge about nutrition (25).

Parents, internet, Television, and magazines were the major sources of nutrition information for the study participants, with parents and internet providing nutritional information to the largest proportion of the students overall (26-28). Television also provides considerable nutrition information (which is not always accurate) to Pakistani youth and exposes them to the 'slim image' as well as considerable advertising for high fat, high sugar foods, which can influence their food choices and contribute to poor eating habits (29). Girls with strong body weight perception can be at risk of developing eating disorders (30). Mass media and pictures in fashion magazines have a strong impact on young adults' perceptions of their weight and shape (31). In addition, weight concern is a predictor of the development of eating disorders (32). Therefore, it is vital that educators guide their students to understand that an ideal weight should take into account optimal physiological function.

Therefore, developing nutrition education programs that promote healthy eating habits for university students should be encouraged. The best way to prevent is to start early in life as there is a high likelihood that poor eating habits of youth will make them prone to diseases in their adulthood (13) with the associated physical and socioeconomic disadvantages (33). Energy and nutrient requirements are greatly increased in adolescence to accommodate the rapid growth and development that occurs during this period (34).

**Limitations**

We acknowledge that the results of this study cannot be extrapolated to all Pakistani youth. This is a cross-sectional study with sample drawn from 260 university students from a private university in a regional area. Furthermore, the findings of this study are based on self-reported information provided by students and some potential for reporting bias may have occurred because of respondents' interpretation of the questions or desire to report their emotions in a certain way or simply because of inaccuracies of responses. However, baseline information about eating habits and beliefs among a sample of university students was certainly obtained from the present study.

**Recommendations**

The efforts to improve youth health should encompass nutritional education on a wider scale. To monitor Nutritional requirements and eating habits of youth, a systematic and regular method of assessing nutritional needs must be in place. A combination of the education and health sectors and the media and food industry would provide a powerful mechanism for promoting healthy eating habits among university students.

**Conclusion**

Fewer than half of these adolescents consumed all five core foods (fruit, vegetables, dairy products, vegetables and cereal foods) daily during the period of the study and their knowledge about the minimum requirements for these foods was poor. The meal and snack pattern in Pakistani students is very close to the traditional model. 'Desire to lose weight' and dieting is often reported by the students.

Future research should examine why so many the University students do not eat core foods regularly and why eating high sugar foods and fat savory foods are prevailing in the youth. Mechanisms should be developed to increase
the intake of core foods. Food industries can help by effectively promoting core foods to young people and encouraging the university students to eat three main meals per day may improve their intake of core foods. Parents, internet and television are the major sources of nutrition information for these students, thus providing an opportunity for the media and universities to contribute substantially to the health of the nation.

References

26. Hindin TJ. Understanding Preschool Parents’ Attitudes About Television Food Advertising and Their...


Strengthening health system with key strategies in the post devolution times in Pakistan

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Abstract:
Pakistan has undergone organizational reforms through a constitutional amendment in June 2011 (famous as 18th amendment). Health as a result becomes solely a provincial subject. Since provinces are autonomous and constitutionally more powerful to decide for their health systems roadmaps, it is very opportune time for all of them to consider and employ best practices and oft advocated strategies for health system strengthening worldwide. Health system in Pakistan has been lagging behind in terms of key health indicators of maternal and child health as well as of Tuberculosis, Malaria and HIV/AIDS. To accelerate the pace toward achieving or at least nearing the millennium development goals and targets concerned, it would be imperative to take some radical and rational steps for improving the performance of our health system. Issues of governance, financing, human resource and service delivery ought to be taken on priority for the sake of serving the poverty struck people of Pakistan. (Pak J Public Health 2012;2(2):43-6)

Keywords: Health care system, Health system strengthening, Devolution, Pakistan.

Background
Health system strengthening has become an international concern especially in the wake of the millennium development goals 2015. The world is currently experiencing a shift in the global health agenda from an emphasis on disease-specific approaches to a focus on health system strengthening (1). The journey started from the World Development Report 1993-Investing in Health to the WHO’s 2000 report on Improving Health Systems, where one common ground was to adequately finance the health systems for better performance and responsiveness (2,3). Similarly, the WHO framework for action ‘Strengthening health systems for improved health outcomes’ defines fundamental elements of health systems in order to identify opportunities for action (4). The World Health Report 2008 focused on the inequities in health, access to care and quality of health care and it identifies primary health care as a core strategy to strengthen health systems (5).

Pakistan has been lagging behind particularly for the targets set for MDGs 4, 5 and 6 (6). Despite some progress, the health services have failed to reach the poor and the vulnerable populations. The country has suffered huge setbacks during the last one decade or so: political, economic and natural catastrophes. Facing the multitude of other challenges, the government perhaps was never in a position to give health its due share in allocations. With the most meager budget allocated to health, the health system has struggled to deliver a basic and essential service package to its 80% of people (7,8). The National Health Policy of Pakistan 2010 (which was to be enacted) was in conformity with its commitment to improve the health indicators of the country by delivering a set of basic health services for all. This was to be done by improving health and using reliable health information to guide program effectiveness and design, and strategic use of emerging technologies (9).

The Pakistani health care system has yet again undergone an organizational reform as a result of the constitutional amendment last year, unanimously passed by the lower and upper houses of the Parliament. The amendment primarily was about abolishing the concurrent legislative list and removing all the subjects (18 ministries including health and population welfare) from the federal list which ideally should be dealt at the provincial level, as per the constitution of 1973 (10). All the political stakeholders were taken on board and lots of technical consultations fed into the process. Since the primary aim is make the health system more responsive to cater to the needs of the population, it is desirable that such endeavor is evidence based and all the best practices must be employed to make this move a success. It is envisaged that these reforms are aligned to an overall vision for health and development, and will make a difference to the health of the poverty struck population that is in maximum need for essential health services.

Key Strategies for Health System Strengthening
The following strategies are suggested based on the recent
USAID Health Systems 20/20 document which actually captures the most essential constituents applicable to any health system of a developing country (11). The state of affairs in the health system of Pakistan in the post-devolution times will be discussed in the light of this framework.

1. **Building capacity of health system to deliver**
Most of the health care delivery was already with the provinces except the vertical programmes which were financed and managed by the Federal Ministry of Health before the devolution. These included National Programme for Family Planning & Primary Health Care (LHW programme), Maternal, Newborn and Child Health, Hepatitis control, Expanded Programme for Immunization, Tuberculosis control, Roll Back Malaria, HIV/AIDS control etc. These programmes have delivered reasonable results (12). Therefore, the provinces will have to strategize how to integrate and wisely manage the vertical programmes (financing, human resources) in order to reach out to the people without any interruptions or decline in the performance. For this challenge, it would be essential to build capacity of the human resource, revitalize the primary health care and adequately finance all the services: preventive, curative and promotive at the district level. Partnership with local NGOs can also be considered where government feels inability to reach out and deliver.

2. **Balancing cost and sustainability**
Historically, share of non-development budget has been larger than the development budget (8). Moreover, additional human resource transferred to the provinces will have to be catered for their salaries and benefits now. Provincial health departments have to take caution of allocating a justified amount to the development side of the health too. Role of donors, development partners, NGOs, philanthropists and private sector must be reviewed logically and considered for ensuring the sustainability in the health sector operations. Before launching new projects and new interventions, it would be imperative to carry out value-for-money analyses. As a matter of fact, this means formulating right methodologies for estimating costs at the level of service delivery and designing instinctive ways to look at these costs and use them to improve the efficiency of service delivery system.

3. **Improving health governance**
Good governance aims to improve the quality of essential health services. Health system in Pakistan has been confronted with all levels and types of corruption impeding the quality service delivery and severely affecting the health outcomes (13). These reforms are a critical step and needed to bring rapid improvements in health services at the point of delivery. At the same time, there is a need to review and reform the organization and functioning of the provincial department of health and district health offices to address some of the core governance issues that are responsible for the poor health services not only in the public domain but also in the private sector. Institutional mechanisms for strategic health planning, regulation and standard setting, fair financing and credible audit, health information and its use, human resource development and distribution, and disease surveillance need to be strengthened at the provincial level now. Engagement of the civil society organizations at the provincial level and the communities’ representatives at the district level can bring in an element of transparency in the functioning of the health system.

4. **Protecting people from financial risks**
Out-of-pocket health spending by households accounts for more than half of total health financing in most developing countries in Asia; and more than 65% in Pakistan. While seeking health care in the private sector (utilized by 80% people for first level care), almost 92% goes out of pocket (14). Reducing OOP payments and developing appropriate financial risk protection systems is crucial to increasing access to health care by the poor and working towards the goal of universal coverage. Provincial governments may not be ready at this point in time to embark upon the venture of social health insurance. However, other mechanisms of social protection and safety nets must be tried out. These include conditional cash transfers, prepaid vouchers and community-based health insurance and financing. Provinces will have to increase the health sector allocation by 50% every year for the next 10 years to attain a respectable set of health indicators (15). This can only happen if the provinces consolidate the expenditure information and develop the coordinating mechanisms that can oversee progress on planning strategic and long-term investments, introducing pro-poor health reforms and making the basic analyses on strategic choices and financing options. Rising poverty and uncontrolled inflation in the country necessitate steps to protect the poor from incurring catastrophic expenditures on health, which a basic human right.

5. **Measuring and monitoring health system’s performance**
Traditionally, provinces never got their share of resources from the federal government based on any performance parameters. In return, the districts too were funded based
on incremental budgets. For measuring the performance of a health system, be it the provincial or at district level, there has to be a robust information system which would furnish data on expenditures, allocative efficiency, human resource, disease burden etc (16). Provinces must strategize to develop and organize a Health Systems Database which would allow users to easily compile and analyze provincial and district level data to quickly assess the performance of a district health system, benchmark district's performance against others and monitor progress toward system strengthening goals. Simultaneously, provinces must develop mechanisms to monitor the responsiveness of the health services that determine particularly the level of satisfaction of its users (17).

6. **Paying for results to improve health system’s performance**

Pay for performance is a strategy to link payments and incentive to a set of targets to be achieved. This approach has shown to improve the use of health services, and improve the quality and availability of those services. The strategy can be tried for the districts against the results delivered as well as with the hospitals by giving them specific targets. Pay for performance in Pakistan has been experimented through supply-side payments to the health providers and demand-side vouchers that subsidize the costs of a package of reproductive health care services and transportation for poor women. It has shown to reduce maternal and infant mortality by increasing utilization of antenatal care, skilled delivery, and postnatal care, as well as family planning services (18). Primary health care facilities are being contracted to non-state entities. No doubt they have shown tremendous improvement in various aspects of service delivery at a level and in circumstances where government has struggled for years. Since government is the financier of this initiative, scaling up of this contracting initiative should also be linked with pre-determined set of indicators and targets to achieve the best results and maximum benefit for the population to be served (19).

7. **Tracking expenditures through health systems**

Resource tracking monitors the flow of financial resources within the health sector. Governments as well as the development partners depend on health expenditure data to appraise past performance of health programs and thereon guide the decision-making. Pakistan government has not been able to compute national health accounts periodically. Nevertheless, two reports were compiled for year 2005-06 and then 2007-08 (14). To what extent the information was used for decision making, remains questionable. Pakistan represents a health sector where government’s share in health spending is only US$ 4-6 per capita, out of pocket expense is heavy, donors’ contribution is unpredictable and private sector’s expenditure is growing day by day. A costed health sector strategy could be the only solution to ascertain the essential health service package at primary and secondary health care levels which are under provincial control now. This is crucial to achieve the WHO target of 5 % GDP expenditure on health and of Commission on Macroeconomics and Health to secure universal coverage to an essential package of health services (20). In the post devolution times, the provinces will require a comprehensive health spending information, which will inform the policy making processes for resource mobilization and allocation in the years to come.

8. **Allocating human resources to health system**

Primary health care has been grossly under-utilized in Pakistan. Besides numerous other issues, lack of trained human resource is a chronic issue. One, there are not enough personnel trained; second, those who are trained do not want to serve the rural areas and PHC centers because they do not find the enabling environment and conducive working conditions (21). In search of the better civic amenities, majority of the health care workers settle down for an employment or establish their practices in urban centers of Pakistan. At one point in time, there were only 25% of PHC facilities with a female health care provider. After contracting PHC services, situation is improving slowly. Doctor patient ratio and doctor nurse ratio is far below the international standards (12). In this regard, it is critical for the provinces to develop a human resource information system and use it for future HR requirements. Medical, dental, nursing and paramedics schools should be established according to the need of the health departments.

**Conclusion**

This health system strengthening approach is not a rocket science and may not sound new. However, it may help in stimulating a thought process for the provincial stakeholders and policy makers currently developing health sector strategies for the respective areas. The modus operandi to follow and implement these steps may depend on the local context and capacity of the individual health department in the four provinces and two federally administered areas of Pakistan. Likewise, this paper is instrumental for the development partners and the NGOs to complement and supplement the efforts of the provincial
Lastly, the federal government must play its role of creating inter-provincial harmony, streamlining the donors’ assistance, ensuring political and economic stability, and providing a common vision for the health of the nation.

References

Think tanks or forums are not a new concept. The terminology 'think tank' evolved from World War II, where a secure room or environment was used as a place for military planners to meet (1). In the early 1900s, Andrew Carnegie and Robert Brookings believed that: "By establishing an environment where academics would not be distracted by teaching responsibilities but could focus entirely on research relevant to public policy, think tanks could play an important and much-needed role in policymaking" (2). Since the late 1940s, the term 'think tank' has been used to describe several different types of organizations that engage in policy analysis. North America has taken the lead in the emergence of think tanks.

In the late 1980s, there had been limited research on think tanks and their role in the policy-making process (3) which was supported again in 2001 (4). However, in the past one to two decades literature on the role of think tanks in developed countries, and more recently in developing countries, has expanded (1, 2, 5-7).

To contextualise this literature review within Pakistan, the country's first think tank was inaugurated in 1947, The Pakistan Institute of International Affairs (PIIA). Currently there are over a dozen think tanks in the country from various disciplines. From a health perspective, the country's first stakeholder 'health' think tank was developed in 2005 by the non-government organisation Heartfile (8). Pakistan's Health Policy Forum is hosted by Heartfile and has over a hundred stakeholders from seven membership categories (private academia and service delivery, development partners, non-government agencies, government agencies, professional associations, allied health associations and individuals) (9).

This article provides a short description of the review process, definitions and categories of think tanks and their capacity to influence the policy-making process from a developing country context.

**Methodology of literature review**

This literature review aimed to identify and interpret knowledge relevant to the doctorate research question, 'how does a health think tank act as a vehicle to influence the policy-making process in a developing country?' The review utilized a structured approach to identify and evaluate relevant studies (10). The following steps were taken to frame the review: review questions established, key words identified and relevant studies searched. Key words (think tanks, public health policy, policy communities, and developing countries) from the review questions facilitated the literature review (11). Major search engines (e.g. Google Scholar) and electronic databases (e.g. PubMed) were accessed to obtain literature related to the keywords. Literature was also accessed from Pakistan's Medical and Research Council Library, Heartfile's Archives (8), Flinders University Library, South Australia and from Amazon's online reference book service. Published and unpublished literature was reviewed up to 2011.

**Spectrum of think tank definitions**

Over the years, many scholars have proposed various definitions and categories of think tanks to account for the
wide spectrum of think tanks that exist globally. The literature suggests that the definition is evolving as think tanks become important vehicles in the policy-making process, especially in developing countries.

There are three broad strategic orientations for defining think tanks (12). Firstly, think tanks are institutes, which are information-centred, with an emphasis on generating information for publication. Secondly, think tanks are convocation-centred, whereby they bring people together and thirdly they can provide a balance between information and convocation activities (12). Some scholars state that it is difficult to define what a think tank is, but argue that they can be differentiated by role. Some think tanks focus exclusively on policy analysis; others do not focus on this at all and many think tanks are just glorified consulting firms, or places to which out-of-favour politicians gravitate (13). There are other schools of thought that defining a think tank is straightforward: “they are non-profit organizations, they have a primary interest in public policy research, and are active in looking to influence the policy-making process” (14). In 2000, the word ‘public’ alongside policy-makers was added to the definition; think tanks are “…public policy research, analysis and engagement institutions that generate policy-oriented research, analysis and advice on domestic and international issues that enables policy-makers and the ‘public’ to make informed decisions about public policy issues”(1).

The concept of being an ‘independent’ think tank appears in Rich’s definition: “they are ‘independent’, non-interest-based, non-profit organizations that produce and principally rely on expertise and ideas to obtain support and to influence the policy-making process” (15).

From a developing country perspective, Argentinian think tanks have been defined as organizations that undertake analyses of the scientific or technical characteristics of public policies (16). Being an independent think tank, including the public in the policy-making process and a focus on policy-research are all absent from this definition.

In Egypt ‘research institutes’ and not ‘think tanks’, dominate the research landscape (17). Research Institutes are academic-centred, and may or may not lead to solutions at a policy level. Think tanks on the other hand, focus on policy issues and policy-oriented research. Table 1 presents a summary of these differences from an Egyptian context.

<table>
<thead>
<tr>
<th>Research Institute</th>
<th>Think tanks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research is an end in itself.</td>
<td>Research delivers policy options leading to policy advice for decision-makers.</td>
</tr>
<tr>
<td>Research is scholarly and academic-centred.</td>
<td>Research is policy-oriented.</td>
</tr>
<tr>
<td>Research may or may not lead to solutions at a policy level.</td>
<td>Research is solution and goal-oriented for defined problems.</td>
</tr>
<tr>
<td>Ranked according to academic prestige and reputation of their experts or academics.</td>
<td>Ranked according to their success in providing solutions to different world problems.</td>
</tr>
</tbody>
</table>

(Source: Osman 2008)

In the mission statement of Pakistan’s Health Policy Forum, it was defined as: “an intellectually independent health-sector think tank with an institutional mechanism to stimulate, assist in the development of and monitor policies, foster their implementation and catalyse change through technical and policy support” (9). According to the founder of Pakistan’s Health Policy Forum, its definition was home-grown (18).

Main categories of think tanks
Think tanks can be categorised by their scope of operations, outputs, linkages and types.

With respect to scope of operation, there are three sub-categories: full service, multi-issue and single issue think tanks (15). This categorisation provides a spectrum of issues that range from broad domains such as foreign or domestic policy, to a limited focus on one domain e.g. health or economics.

The second way to categorize think tanks is via outputs: e.g., academic outputs, contract outputs or advocacy-or-policy briefs (such as green or white papers). Table 2 provides a summary of these three main outputs (19).

<table>
<thead>
<tr>
<th>Academic-oriented think tank</th>
<th>Contract research think tank</th>
<th>Advocacy-or-policy-oriented think tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main outputs are book-length studies.</td>
<td>Main outputs are reports for clients.</td>
<td>Main outputs are policy briefs, policy commentaries, green or white papers.</td>
</tr>
<tr>
<td>Usually set a clear, bottom-up agenda irrespective of policy preferences.</td>
<td>Often hired as program and policy consultants on specific issues.</td>
<td>Usually set their research agenda with relevance to policy preferences.</td>
</tr>
</tbody>
</table>

(Source: Osman and El Molla 2009)
A further category is related to the linkages of think tanks, as seen in Table 3 (20). There are six forms or states ranging from full independence to quasi-independency, and whether think tanks are linked to a university, political party or the government. A quasi-government think tank is one that is funded by government but not part of its structure.

Table 3: Think tank linkages

<table>
<thead>
<tr>
<th>Classification of linkage</th>
<th>Description of think tank linkage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent think tank</td>
<td>Autonomy from government &amp; interest groups</td>
</tr>
<tr>
<td>Quasi-independent think tank</td>
<td>Autonomy from government but considered an interest group</td>
</tr>
<tr>
<td>University-linked think tank</td>
<td>Linked with policy research centres at universities</td>
</tr>
<tr>
<td>Politically-linked think tank</td>
<td>Linked with a political party</td>
</tr>
<tr>
<td>Government-linked think tank</td>
<td>Linked with part of the government structure</td>
</tr>
<tr>
<td>Quasi-government-linked think tank</td>
<td>Funded by government but not part of its structure</td>
</tr>
</tbody>
</table>

(Source: Haass 2002)

Analysis of the literature revealed that think tanks can be labeled as a particular ‘type’ of think tank. For example, a private research center think tank, a government contracted think tank, a NGO think tank, a policy implementation think tank, an advocacy think tank, or a university (without students) think tank. In terms of categories, Pakistan’s Health Policy Forum is a single issue think tank, with various outputs (21,22); it is independent and an advocacy think tank.

Figure 1 presents a summary of think tank categories which are not mutually exclusive (18). These include outputs, linkages, scope of operation and types of think tanks.

Think tanks and the policy-making process in a developing country context

Langford and Brownsey argue that it is difficult to measure whether a think tank is reaching a group of policy-makers due to the number of insiders and outsiders pushing competitive positions (13). Proxy measures of think tank effectiveness have been developed, and the most common of these is media exposure (2). From a developing country context, think tanks have become key policy actors, however a debate has surfaced related to their requirements for becoming effective and credible (19). It is argued that leadership and appropriate connections can increase their impact on the policy-making process (13,23,24). However, several factors have been presented to explain the weak presence and influence of think tanks in developing countries, e.g. corruption, underfunded capacity building, and a lack of qualified researchers (19).

In a comparative study of six countries (including Pakistan) the researchers examined how various indicators (e.g. the number of years as democracy, the nature of civil society, and the philanthropic culture) predicted the number of think tanks within a country (25). Politics has been identified in the literature as an important part of the think tank policy-making paradigm; a democratic political environment is considered to be conducive to outside policy actors such as think tanks (25). In Pakistan, there are over twelve think tanks, with conditions for a prosperous think tank environment improving; it is argued that its geostrategic position and high population growth amongst other factors, need international support to encourage further think tank development (25).

From a policy perspective, some scholars suggest that think tanks need to move beyond producing policy outputs, and instead they need to understand the policy-making process in a local context (developed or developing), to enhance their involvement with the process (12,24,26).

Conclusion

In the literature, there are many interchangeable terms for think tanks, ranging from, ‘policy institutes’ to ‘policy organizations’ and ‘forums’. All in all they are a highly diversified group, difficult to define, categorize and evaluate. The literature review provided insights about various definitions and categories of think tanks. Both aspects are evolving as new think tanks are inaugurated and adapt to changing environments. Think tanks vary in their specializations, research outputs and ideological orientations and institutional independence. The main difference evident from the literature review is the emphasis the think tank places on public policy research, and how and where it attempts to influence the policy-making process.

In a developing country there are several factors that support the credibility and effectiveness of think tanks e.g. strong leadership, a good relationship with policy-makers, adequate funding for capacity building and qualified researchers. From a local context, Pakistan’s Health Policy Forum-hosted by Heartfile, has delivered several policy outputs and is very much a part of the policy community striving to contribute to population health.
Figure 1: Summary of think tank categories related to linkages, scope of operations, outputs and types (Source: Ronis 2012)

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References
Introduction

Chronic (non-communicable diseases) are considered to be a leading cause of morbidity and mortality among world populations, with the exception of some poor countries that have a “double burden” of communicable and non-communicable diseases (1). The four leading NCDs are cardiovascular disease, cancer, chronic respiratory disease and diabetes, all of which are impacted by common, preventable, unhealthy behaviour such as tobacco smoking, physical inactivity and unhealthy diet. Today, low-cost, evidence-based interventions are available for individuals and populations. On a global level, emphasis has been placed on a few modifiable risk factors for NCDs, such as tobacco smoking, physical inactivity, heavy drinking and unhealthy diet. WHO has introduced an integrated stepwise approach to preventive and control tools that were taken from successful experiences in the Western Pacific region. These efforts need to be translated into action and taken forward into the real world in order to achieve effective outcomes. Strong and sustainable health care systems are required for the effective prevention and treatment of NCDs. (Pak J Public Health 2012;2(2):52-5)

Factors that led the issue to be placed on the global health agenda

Firstly, globalisation has direct and indirect effects on the development of NCDs. The indirect positive effects are seen in improved overall economic growth; while, the direct negative effect is seen in the increased global marketing and production of tobacco as well fast food. Next, ageing population in developing countries has resulted in both demographic and epidemiological transitions that in turn affect the impact of NCDs on the overall wellbeing of populations.

Abstract:
The four leading non-communicable diseases (NCDs) are cardiovascular diseases, cancer, chronic respiratory disease and diabetes. NCDs have been identified as the second highest threat to the global economy. NCDs were estimated to contribute to 60% of world mortality and approximately 43% of the world's burden of diseases. As a consequence, there is a need for an urgent and global response towards NCDs, especially in developing countries where there is a fast economic development and open trade. Globalisation is playing an important role either directly or indirectly. The indirect positive effects are seen in improved overall economic growth; while, the direct negative effect is seen in the increased global marketing and production of tobacco as well fast food. Next, ageing population in developing countries has resulted in both demographic and epidemiological transitions that in turn affect the impact of NCDs on the overall wellbeing of populations.

Today, low-cost, evidence-based interventions are available for individuals and populations. On a global level, emphasis has been placed on a few modifiable risk factors for NCDs, such as tobacco smoking, physical inactivity, heavy drinking and unhealthy diet. WHO has introduced an integrated stepwise approach to preventive and control tools that were taken from successful experiences in the Western Pacific region. These efforts need to be translated into action and taken forward into the real world in order to achieve effective outcomes. Strong and sustainable health care systems are required for the effective prevention and treatment of NCDs. (Pak J Public Health 2012;2(2):52-5)

Keywords: Non-communicable diseases, Globalisation, Mortality, Developing world, Epidemiological transition.
effects on health (7). For instance, tobacco campaigns are more widely distributed in developing countries than developed countries, and mostly target young adults and women. It has been proven that tobacco consumption has increased as a consequence of foreign tobacco investment and free trade (7). Modern technology and communication, such as the online marketing of tobacco, has also had a great effect on population health by increasing tobacco consumption. Similarly, the marketing of food and soft drinks with a high sugar and salt content through the mass media has played a major role in the NCDs epidemic, especially in poor countries due to an inability to buy healthy food and beverages (3).

Secondly, the ageing population in developing countries has resulted in both demographic and epidemiological transitions that in turn affect the impact of NCDs on the overall wellbeing of populations. Demographic transition is largely found in countries where there are preventable health programmes that have been proven to be effective, especially during childhood and adolescence (9).

This leads to an overall increase in the life expectancy of the population with NCDs largely distributed across older age groups. On the other hand, epidemiological transition happens in countries where there is a great shift in the economic and social aspects of life that result in more unfavourable risk factors for NCDs (10). This could lead to health-related behaviours such as tobacco use, physical inactivity and consumption of fast food that will cause a significant rise in the prevalence of NCDs at a later age. **What has been done in this area at a global level?**

Many developed and high-income countries have shown a reduction in the burden of chronic diseases, especially cardiovascular disease (1). These high achievements have resulted from high-quality preventive measures and health services that have been provided (11). Today, low-cost, evidence-based interventions are available for individuals and populations. On a global level, emphasis has been placed on a few modifiable risk factors for NCDs, such as tobacco smoking, physical inactivity, heavy drinking and unhealthy diet. WHO has introduced an integrated stepwise approach to preventive and control tools that were taken from successful experiences in the Western Pacific region (1). This approach is divided into three interventional phases core, expanded and optimum phases that depend on available resources and political support as well as the strength of the health care system. These interventions are a comprehensive and balanced set of programmes that target individuals and populations at high risk. When more resources become accessible, together with strong political and community commitment, the interventions are expanded to their optimum level.

There have been some efforts worldwide to address NCDs on a global level, as follows:

In May 2000, WHO recognised NCDs, which let the World Health Assembly to adopt a resolution (WHA/53.17) approving a WHO global strategy for the prevention of non-communicable diseases. Members were encouraged to develop evidence-based national initiatives to address risk factors and promote better health behaviours (12).

In May 2008, the 61st World Health Assembly endorsed The Action Plan for the Global Strategy for the Prevention and Control of Non-communicable Diseases. The aim of the plan is to reduce premature death and improve quality of life. The plan also takes into account previous efforts in NCDs that include the WHO Framework Convention on Tobacco Control (FCTC) and the Global Strategy on Diet, Physical Activity and Health (13).

On 19 May 2009, an event was held during the 62nd World Health Assembly by the International Diabetes Federation (IDF), World Heart Federation (WHF) and International Union Against Cancer (UICC). The main topic discussed was emphasising the urgent need for immediate action towards the global epidemic of NCDs (5).

In April 2011, the International NCD Conference in Copenhagen drew attention to a new form of global financing for NCDs. The main focus was on the emerging burden of chronic diseases and its impact on developing countries (14). These efforts need to be translated into action and taken forward into the real world in order to achieve effective outcomes. There are some impressive steps that, if taken, could reduce the epidemic of NCDs. The first step is to conduct epidemiological research to determine the most accurate burden of NCDs, particularly in Africa where NCDs are not as well documented as communicable diseases, for which some data is available in middle income countries such as South Africa (15).

Health system research is important to enable the planning and delivery of structured public health services for people at high risk and patients with already existing NCDs. The second step is to implement evidence-based interventions that show large benefits at a low cost. For instance, tobacco use and salt reduction in diets have been investigated in 23 countries. Four measures from the Framework Convention
on Tobacco Control (FCTC) and 15% reduction of salt in diet were implemented in the study (16). It is estimated that these interventions could prevent 13.8 million deaths world wide at a cost as low as 1 billion USD (as of 2005). Evidence suggests that using an individual, high risk approach by introducing opportunistic screening and multidrug treatment in cardiovascular patients, or in people who have a 15% higher- than- normal risk of developing it, can potentially prevent up to 17.9 million deaths world wide between 2006 and 2015 (17). Politicians and policy makers have an important role and can help by introducing new policies, initiatives and programmes that target NCDs.

**Key challenges facing NCDs in order to be placed on health agendas**

Strong and sustainable health care systems are required for the effective prevention and treatment of NCDs (8). The introduction of a new Millennium Development Goal or international partnership health programmes might lead to a disease-specific approach rather than strengthen health care systems (18). This is because the structural design of global health is already too complex. Providing extra funding might not lead to significant results; rather, developing an advocacy platform for NCDs may be of greater benefit (19). After that, it is necessary for a global leadership to monitor and manage the progress of countries’ efforts to prevent and treat NCDs (19). For example, the need for an increase in national action from authorities to address the burden of NCDs has been repeatedly emphasised by WHO members. It is necessary for the majority of countries and WHO to respond to this proposition as soon as possible in order to achieve faster outcomes. Additionally, WHO should provide technical support to countries that require it to implement various NCDs resolutions that have been approved at World Health Assemblies. This technical support requires increased organisational efforts and capacity in addition to available resources at national and global levels. International profit and non-profit agencies should include NCDs in their health agendas. The World Bank recently recognised NCDs in a report that recommended governments introduce public health polices targeting NCDs and advised countries on how to improve health care facilities to tackle NCDs epidemics that result from ageing populations (6). In addition, the UK’s Department for International Development and AusAID recently declared NCDs to be in their strategies. However, these recent international advancements are not sufficient to reach the desired goals unless further actions are implemented, particularly financial assistance for disadvantaged countries (20).

**Conclusion**

Available statistics and evidence clearly demonstrate how significant the problem is worldwide, particularly among developing countries that experience a rapid shift in epidemiological transition and globalisation effects.

The problem might be larger than is thought, due to a general lack of documentation and availability of data in African countries and specifically in poorer countries. In recent years, there has been worldwide acknowledgment of the burden of NCDs on the wellbeing of individuals and populations, as well a negative impact on economic progress. There are successful models available that should be considered to enhance current worldwide efforts towards NCDs, such as the diabetes partnership programme in Mozambique and the major improvements in low-cost, effective prevention and control of tuberculosis in the last decade. For current public health interventions to hold some promise there needs to be immediate interest in the applicable and affordable, evidence-based approaches that have proven effective. Furthermore, policy development around the area of NCDs should create some balance, as NCDs are not included in the MDGs. Financial assistance to disadvantaged countries might not be enough if it lacks technical support and monitoring of overall progress.

**References**


Introduction

Every country has its own health care system to cater specific health care needs of its population in a unique social and cultural milieu. Main goal of health care system is to deliver equitable, effective and accessible health care services to enhance patient satisfaction (1). The patient or customer's satisfaction is a multidimensional and broader concept taking into account the individual perceptions, expectations and experience together (2). Satisfaction is a subjective feeling in which a person compares his/her own assessment (i.e. experience) of available health care with his/her expectations and it is defined as “health care recipient's reaction to salient aspects of his or her experience of a service” (3). Since the last two decades, lot of emphasis has been laid down to the measurement of patient satisfaction with the health care services and health care system as a whole.

Patient satisfaction is an important component of healthcare quality reflecting healthcare provider's ability to meet patient's needs and expectations. In many countries assessment and measurement of patient satisfaction with the health care system is recognized as the key indicator of health care quality which is defined as the “the totality of features and characteristics of a service that bear on its ability to satisfy a given need” (4). Measurement of patient satisfaction with the health care system is important in several aspects. Literature has shown that a satisfied patient is more cooperative and compliant with the medical treatment regimen. By identifying the level of patient satisfaction and the factors associated with dissatisfaction, a country can address the gaps in health system, can bring reforms and improve overall health status of its population. Patient satisfaction surveys enhance health care provider's accountability and leads to service delivery improvements efforts by the hospitals and physicians. It also improves patient safety level and lowers the cost of care. It is also used to compare the performance of different health care systems globally, and to identify health care policies, health services organization and the provider's behaviors that best respond to patients' expectations or needs (5-7).

In the light of available research this paper intends to discuss various determinants of patient satisfaction with the health care system in Pakistan. This will help policy makers, health care managers and physicians to identify...
the reasons of patient dissatisfaction and design potential interventions to enhance their satisfaction with health care system. The literature search was carried out by using the database of Medscape, Medline, PakMedinet and PubMed, without any language restriction using MeSH key words as “patient satisfaction AND health care system in Pakistan” and “Determinants of patient satisfaction AND Pakistan”. Twenty-one articles were found which discussed the concept of patient satisfaction and its determinants with health care system in Pakistan.

Health care delivery system in Pakistan and Patient Satisfaction

Islamic republic of Pakistan lies in the Eastern Mediterranean region of World Health Organization and population wise it’s the 6th largest nation of this world. Pakistan is a welfare state and the provision of food, shelter, clothing, health and education is the responsibility of state (8). Following the spirit of the Alma Ata declaration in 1978, Pakistan’s government established an extensive network of primary health care facilities to improved accessibility of the population to the basic health care facilities with a main aim of providing equitably, effective and accessible health care services at a cost that individual can afford (9).

Health care delivery system in Pakistan is mixed type, comprising of public, private and the informal health care sector. According to national health survey that was conducted in year 1998, the utilization of public primary health care facilities is not more than 21% and approximately 79% of the population utilizes private health care sector that includes both trained private health care sector (49%) and non formal health care sector (30%) including hakims, Unani healers, herbalists and quacks (10). There are numerous reasons for low utilization of public sector health care services and dissatisfaction from government health care facilities, among them unavailability of doctors and paramedics due to staff absenteeism, short supply of essential medicine and other equipments are major ones (11).

Pakistan spending not more than 0.55% of GDP on the health sector and this along with poverty, illiteracy, cultural factors, lack of patient satisfaction and trust on the government health care facilities, poor structure and sanitation, physical inaccessibility, lack of political will, commitment and public health policy are the other potential causes for severe under utilization of public health care facilities (12).

Out of the many causes of underutilization of government health care facility, patient satisfaction is one which has not been explored to greater extent in Pakistan. Although it’s not a new concept but there is no inclination of incorporation of patient suggestions and recommendations in the delivery of services according to patient expectations by the government. Studies has been done in the past that show decreased patient satisfaction with the government health care facilities and increased utilization of private health care facilities across all income quintiles (lower to higher socioeconomic status) (13). Studies have been done in Pakistan to determine the patient satisfaction with inpatient, outpatient and emergency health care facilities. However studies done at the local level in different parts of country showed variable level of patient satisfaction with health care services. No data is available at the national level to represent the level of patient satisfaction by responsiveness domains.

Determinants of patient satisfaction

Donabedian philosophy is globally acknowledged to encompass selected indicators to measure outcomes i.e. patient satisfaction. The indicators included in this philosophical framework are structure, process or outcome in nature. Structure indicators have medical as well as non medical determinants. Medical determinants are based on health care system that comprises of doctors and paramedic staff, training and equipment effectively. Non medical determinants of health care are physical infrastructure that constitutes the environment and availability of spacious room. Process indicators refer to the things done to and for the patient by practitioners in the course of treatment (14,15).

Broadly speaking patient expectations, perceptions and their experiences with health care system are the main determinants of patient satisfaction worldwide. These domains are interrelated and interconnected with each other and can simultaneously affect patient satisfaction (Figure 1).

1. Patient expectations

Patient’s expectations with the health care providers and health care system play fundamental role in the concept of patient satisfaction. Patient compares his/her own experience of health care with expectations and this assessment of patient expectations about health care services helps health care providers to measure their satisfaction (16).

As an evaluative and measurement tool of quality assurance, expectations make the concept of satisfaction more complex. There are three categories of patient
Figure 1: Determinants of patient satisfaction with health care system

expectations identified from literature: i.e. a) Background expectations which are explicit resulting from accumulated learning of treatment and consultation processes b) Interaction expectations refers to patient expectations regarding the exchange of information between patient and healthcare provider c) Action expectation which is about the action that doctor will take, examples of action expectation includes prescribing, referral or advice from a doctor (17).

Different patients hold different expectation based upon their knowledge and prior experience and are therefore likely to change with accumulating experiences. Patients with lesser expectations usually have higher satisfaction rates and it is evident from a cross sectional survey conducted at outpatient department of Civil Hospital Karachi (18). Patient expectation in terms of emotional support by health care providers, listening by the doctor with patience, understanding and explanation of the disease process, provision of correct and relevant information, proper diagnosis and treatment, prescription of medicines, ordering of investigations and specialist referral were identified from patient expectations surveys conducted in Pakistan (19-23). Waiting time of not more than 30 minutes and consultation time of not less than 20 minutes in the hospital outpatient and emergency department are some other expectations. These expectations are affected by patient characteristics as age, sex and marital status as well as psychosocial determinants.

a) Patient characteristics

Patient characteristics such as age, ethnicity, sex, socioeconomic status, education, and marital status are often used globally in patient expectation surveys as a proxy measure for patient expectation (24). Patient factors that predict and influence patient expectations of the health care are increasing age, male gender, high socioeconomic status and education as these were found to be positively associated with patient satisfaction in various surveys conducted in Pakistan. Older people have lower/modest expectations thus likely to be more satisfied with health care than do younger people. Older people expect less information from doctor and more likely to comply with medicine or prescription advice than younger people. Gender was found to be an inconsistent predictor of patient satisfaction in studies reviewed, as few studies showed that females tend to be less satisfied with health care services provided by the doctors and paramedic staff as compared to males. High expectations, diverse experiences or lack of decision making power in Pakistani women are the potential reasons (25,26).

Educational attainment has been identified as having a significant impact on satisfaction and studies showed that higher level of education is associated with lower level of patient satisfaction as educated patients are more likely to have good understanding of disease and they expect a better communication from health care providers (27). Among other determinants of patient satisfaction the relationship between satisfaction and socioeconomic status was also explored. People from low social class were found to be more satisfied with the treatment provided as compared to people from higher social class. A survey conducted in one of the tertiary care hospital in Pakistan to identify the predictors of satisfaction of geriatric patients with the care provided indicated that patients belonging to low social class i.e. having income between 5000-1000 Pakistani rupees were 1.68 times more likely to be satisfied as compared to other classes (21,28). Although ethnicity affect level of patient expectation but has not been explored in Pakistani context.

b) Psychosocial determinants

Variety of Psycho social factors also influences patient satisfaction. Psychological disorder such as affective distress and somatic preoccupation negatively influence patient satisfaction. In addition personality of patient also has an impact as anxious and depressed patient with negative personality traits are less likely to satisfy (29).
2. Patient experience as determinant of satisfaction

Patient experience is a strong predictor of patient satisfaction. Almost all patient satisfaction surveys conducted worldwide are intended to measure patient experience with health care system for quality improvement of the health care services. World Health Organization uses measures of patient experience with the health care system as an indicator of responsiveness of health care system. The performance or for that matter the responsiveness of the system is reflected by an overall system. The performance or for that matter the system as an indicator of responsiveness of health care measures of patient experience with the health care services. World Health Organization uses experience with health system for quality improvement of conducted worldwide are intended to measure patient satisfaction. Almost all patient satisfaction surveys conducted in year 2004 showed that among patients who were referred by LHWs (lady health worker) 31.6% of referrals (37,38). One of the cross sectional survey conducted in year 2004 showed that among patients who were not satisfied with their management at the referral facilities. Long time to reach the referral facility, long distance to health facility and outcome of condition were significantly associated with patient dissatisfaction (39). Patient satisfaction represents an important aspect in care at various levels of health care provision and proper referrals (37,38). One of the cross sectional survey conducted in year 2004 showed that among patients who were referred by LHWs (lady health worker) 31.6% of patients were not satisfied with their management at the referral facilities. Long time to reach the referral facility, long distance to health facility and outcome of condition were significantly associated with patient dissatisfaction (39). Patient satisfaction represents an important aspect in quality of health care (40). One of the main concerns of any health care units is to achieve a high level of patient satisfaction by providing a better quality service. Trust on attending physician and word of mouth are two factors found to be highly and positively associated with satisfaction with physician and health care facility. 

Similarly results of surveys conducted in Karachi to determine predictors of patient dissatisfaction with emergency services indicates that unavailability of beds, long waiting time in emergency department, followed by financial constraints, involvement of multiple specialty and lack of continuity of care are major predictors (35,36). According to a cross sectional survey carried out at a major tertiary care hospital in Karachi showed that the overall patient satisfaction level was at the level comparable to European countries. However, the results according to responsiveness domains 68% of patient reported that “they never asked for the views on quality of care provided”. 48% patients report that “they had to wait for a very long time to get bed in ward”. Lack of autonomy, prompt attention and effective communication by the doctor and nursing staff are the main factors responsible for patient's dissatisfaction in private tertiary care hospital in Karachi, Pakistan (25).

There is no concept of autonomy or involvement of patients in the treatment decision in both public and private health care sector in Pakistan, illiteracy and lack of awareness about their own rights might be the potential cause. Likewise other factors influencing patient experience with the health care services are continuity of care at various levels of health care provision and proper referrals (37,38). One of the cross sectional survey conducted in year 2004 showed that among patients who were referred by LHWs (lady health worker) 31.6% of patients were not satisfied with their management at the referral facilities. Long time to reach the referral facility, long distance to health facility and outcome of condition were significantly associated with patient dissatisfaction (39). Patient satisfaction represents an important aspect in quality of health care (40). One of the main concerns of any health care units is to achieve a high level of patient satisfaction by providing a better quality service. Trust on attending physician and word of mouth are two factors found to be highly and positively associated with satisfaction with physician and health care facility.
3. Patient perceptions
Perceptions of the patient regarding health care facilities are as equally important as assessment of patient expectations and perceptions. Self perceived health status and personality of the person utilizing health care services are important determinants of patient perceptions (41). This domain of patient satisfaction has not been explored yet in Pakistan. Other interventions that shows considerable improvement in patients' perceived quality of care and attached satisfaction is contracting out of services at public health facility leading to more availability of doctor, paramedic and medicines, reduce waiting time by increasing health personnel and decreasing staff absenteeism (42).

Conclusion and Recommendations
The paper attempts to present assimilated available information on patient satisfaction in Pakistan. Patient satisfaction is a measure of quality of care provided to the patients but the concept has suffered lack of formal attention to its meaning. From the literature review it is concluded that patients are more satisfied with the health care services if the health system is responsive in term of respect of dignity, autonomy and prompt attention and meeting their expectations. Patient expectations which are influenced by the patient characteristics such as age, social class, education and to lesser extent gender and ethnicity were found to be important predictors of patient satisfaction in many surveys. However, patient perceptions and other psychological factors are potentially neglected determinants. In Pakistan private health care sector is somehow responsive as indicated by few studies done in local settings but public sector is severely underutilized and there is no concept of quality improvement and quality service provision in government hospitals.

To improve patient satisfaction innervations at individual, hospital and health care system level are needed and includes: introduction of concept of quality care among health professionals, increase in staff competence and motivation leads to increased patient trust and satisfaction. One of the available and practical options to improve patient satisfaction is capacity building of health professionals including training the health personnel in interpersonal and communication skills. Majority of patient satisfaction surveys support this observation and may be more appropriate to resource-less countries as it is more cost effective than developing technical facilities. Above all, incorporation of patient satisfaction research findings at the national and local policy level will help in enhancing patient satisfaction with health care system in Pakistan.

References
17. Greenberg RP, Constantinou MJ, Bruce N. Are patient


Devolution and health challenges and opportunities- A year later

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Abstract:
Political devolution within Pakistan provides a formidable opportunity for healthcare systems to address issues related to systems, planning health care delivery structures, programmes, and services. The 18th Constitutional Amendment has created a vacuum as the devolved functions were not detailed out in any plan of action. The objective of the paper is to present the status of devolution one year after the notification, its effects on the health planning, financing, coordination and service delivery. This is a desk analysis of the processes and progress made after the 18th Constitutional Amendment. The roles of the Federal Ministry of Health have been devolved to eight institutions including provinces of which seven are federal. There is no central coordinating body to oversee policy planning, provide strategic guidelines, set standards, monitor and evaluate health programs, liaise with development partners and report on international commitments. Pakistan through its 18th Constitutional Amendment has not only placed challenges for its health sector but also provided opportunities for the provinces to have a prioritized and integrated health programs. (Pak J Public Health 2012;2(2):62-5)

Key Words: Devolution, Pakistan, Health Care Delivery System

Introduction
Political devolution within Pakistan provides a formidable opportunity for healthcare systems to address issues related to systems, planning health care delivery structures, programmes, and services. Devolution, which entails decentralization, deconcentration, and delegation, has been tried in various settings throughout the world in the health sector.

The health system of Pakistan, which was managed by the Ministry of Health since 1970 In Pakistan, the devolution of powers from the provinces to districts was initiated in 2001 under the Local Government Ordinance. However, on July 1, 2011 the Federal Government of Pakistan, through the 18th Constitutional Amendment abolished seven federal ministries including Ministry of Health and transferred their roles to other federal ministries, divisions, and the provinces (1). This has created a vacuum as the devolved functions were not detailed out in any plan of action. The functions that have been retained at the federal level were distributed to different ministries without setting up a coordination mechanism.

The objective of the paper is to present the status of devolution one year after the notification, its effects on the health planning, financing, coordination and service delivery.

Methods
This is a qualitative study while using desk analysis of the processes and progress made after the 18th Constitutional Amendment. Information was obtained from the notifications and relevant documents obtained from different federal level ministries.

Results
Among the federal ministries abolished, the Ministry of Health operated through the Federal Government's rules of business, 1973, was on the federal concurrent list in the fourth schedule of the constitution of 1973 and managed eleven vertical health, along with seven tertiary care health institutions. Till July 1, 2011, the Federal Ministry of Health was responsible for its (i) stewardship functions, including national policy and planning; (ii) regulation and standardization including pharmaceutical; (iii) medical Education; (iv) research and information; (v) central health establishment and hospitals; and (vi) health care provision by managing preventive and infectious disease control, curative health care, and eleven vertical programs. Following the 18th constitutional amendment, the federal roles were redefined, and some of the items in the concurrent list were shifted to the federal list.

The functions of the Ministry of Health were devolved to eight institutional settings including Planning and Development Division, Economic Affairs Division, Capital Authority Development Department, Ministry of Inter Provincial Coordination, Ministry of National Regulations and Services, Cabinet Division, Federal Bureau of Statistics, and Provinces. All of the functions except for the vertical health programs and tertiary care health institutions were devolved to the provinces and the
remaining were redistributed to federal institutions. More details are placed in Figure 1.

Such an arrangement has two major impacts. First, it has given the provinces to plan their own need based health programs, and be accountable for them as well. In addition it has given the provinces the flexibility to increase financial allocations for their prioritized health programs. Secondly, the current arrangement has also affected the functions of the health system, which are currently neither managed nor coordinated by a central body or institutions. The paper presents the latter in detail.

1. Policy Formulation and Strategic Directions: Pakistan does not have a National Health Policy. The national health policy 2009 remains a draft and has so far not been approved at any level. This leaves a vacuum for the provinces to seek policy guidance while preparing their own health strategies. Except for Khyber Pakhtunkhwa, which has an approved provincial health strategy, other provinces are in the process of preparing their specific strategic papers on health.

2. Functions & Coordination: The Ministry of Health was fragmented and functions were distributed. This has brought a state of confusion as the essential functions of the health sector per say including coordination, international relationships, national and cross border surveillance, national information on health, international reporting coordination with and among provinces, donor coordination, financial forecasting and resource mobilization, and quality assurance are not managed by a central or a single federal institution;

3. Health Programmes: Though the vertical health programs were devolved to the provinces, the programs financed by The Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) were retained at the federal level due to contractual arrangements. The devolved health programs, so far, do not have any quality assurance standards of their own, have faced financial constraints from the federal government and fiscal support offered by their respective provincial health departments has been minimal.

4. Financing: The GDP contribution to health is 0.27% (2). This has decreased from 0.72% in the year 2000-01. The allocation for federal health budget for the year 2012-13 is Rs. 7 billion which itself is not sufficient to meet the salaries of the Lady Health Workers working in the National Program for Family Planning and Primary Health Care.
provincial strategies in Pakistan, devolution has placed the federation at cross roads where central policy-making and its implementation is compromised. This is clearly reflected in fiscal allocation for the health sector for the year 2012-13, where the overall allocation at the federal level do not meet the requirements for even salaries for a single vertical program. Similar experiences have already been documented but neither the federal nor the provincial governments in Pakistan made any attempt to draw a road map for devolution (4).

Devolution has always placed challenges for addressing health inequalities (5-7). The health devolution experience of post 2001, where powers were delegated to districts from provinces, the community did not experience improved public sector health services, as devolution was not fully implemented as planned. In addition power relationships between planners and implementers also posed a formidable challenge at the district level, which also requires problem resolution (8-12). Pakistan's current experience of the negative effect of devolution on services and programmes is also in lieu of the international practices where the first wave of devolution places challenges to service delivery. However, a second wave of reforms are necessary to ensure that not only the scale and scope of services are enhanced but quality is also ensured (13,14).

The current devolution has placed a formidable challenge of coordination, as no single institution at the federal level is responsible for central coordination both with the public sector institutions at the federal and provincial level as well as with the development partners. Based on these lessons learnt, the federal government Care. This has serious implications on the continuation and quality of services. Furthermore, its represents a low level of commitment at the federal level and minimal coordination with the provinces. However, following the 7th National Financial Award, the provincial share to the health sector has increased, but due to lack of any strategic direction, increase in allocations have not shown any improvement in the health care delivery system in general and primary health care services in particular. The details are placed in Figure 2.

5. International commitments and role of development partners: Since there is no national policy on health, and the road map for devolution has not been clearly laid down, development partners particularly the bilateral, multilateral and UN agencies, are facing a daunting challenge of initiating dialogue and negotiating initiatives with the provinces. This is particularly due to the fact that except for Khyber Pakhtunkhwa, provinces do not have approved health strategies and their priorities have not been set forth. Furthermore, with fragmentation and lack of coordination, there appears a clear gap between planning (managed by Planning Commission) and donor coordination (managed by Economic Affairs Division).

Discussion

Pakistan through its 18th Constitutional Amendment has not only placed challenges for its health sector but also provided opportunities for the provinces to have a prioritized and integrated health programs. Healthcare is highly political and has implications on health and social care provision (3).

With the lack of a national health policy and provincial strategies in Pakistan, devolution has placed the federation at cross roads where central policy-making and its implementation is compromised. This is clearly reflected in fiscal allocation for the health sector for the year 2012-13, where the overall allocation at the federal level do not meet the requirements for even salaries for a single vertical program. Similar experiences have already been documented but neither the federal nor the provincial governments in Pakistan made any attempt to draw a road map for devolution (4).

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<table>
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<tr>
<th>Fiscal Years</th>
<th>Total Health Expenditures</th>
<th>Public Sector Development Expenditure</th>
<th>Current Expenditure</th>
<th>Percentage Change</th>
<th>Health Expenditure as % of GDP</th>
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<tbody>
<tr>
<td>2000-01</td>
<td>24.28</td>
<td>5.94</td>
<td>18.34</td>
<td>9.9</td>
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<td>2001-02</td>
<td>25.41</td>
<td>6.99</td>
<td>18.72</td>
<td>4.7</td>
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<tr>
<td>2002-03</td>
<td>28.81</td>
<td>6.61</td>
<td>22.21</td>
<td>13.4</td>
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<tr>
<td>2003-04</td>
<td>32.81</td>
<td>8.50</td>
<td>24.31</td>
<td>13.8</td>
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<td>2004-05</td>
<td>38.00</td>
<td>11.00</td>
<td>27.00</td>
<td>15.8</td>
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<td>2005-06</td>
<td>40.00</td>
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<td>24.00</td>
<td>5.3</td>
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<td>2006-07</td>
<td>50.00</td>
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<td>2007-08</td>
<td>60.00</td>
<td>27.22</td>
<td>32.77</td>
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<td>2008-09</td>
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<td>33.00</td>
<td>41.10</td>
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<td>0.56</td>
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<td>2009-10</td>
<td>79.00</td>
<td>38.00</td>
<td>41.00</td>
<td>7.0</td>
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<td>2010-11</td>
<td>42.00</td>
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<td>2011-12</td>
<td>55.12</td>
<td>26.25</td>
<td>28.87</td>
<td>31.24</td>
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Table 1. Health & Nutrition Expenditures (2000-01 to 2011-12) (Rs. Billion)

1 Economic Survey of Pakistan 2011-12
may establish a federal coordination structure, or a Federal Ministry of Social Services with health as one of its integral divisions, whereby the federal functions that have been fragmented at the federal level are integrated together for policy, planning, resource mobilization/allocations, surveillance and reporting on international commitments. The provincial governments on the other hand need to ensure that they have their respective Provincial Health Strategy, along with Fiscal Layout, initiate post-devolution reforms, through existing health sector reform units, integrate vertical programs into the existing health care delivery system and management structures, strengthen the health information systems, and have a clearly laid down human resource planning, management and development plans.

References

Critical analysis of Lancet neonatal survival series: Prospects for saving new born lives in Pakistan

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Abstract:
There is a great need to understand the underlying causes of neonatal mortality in developing countries. To overcome the prevailing challenges, proper identification of gaps in service delivery is required. Critical analysis of Lancet neonatal survival series is done to emphasize the importance of neonatal survival in elevating the health status of people. Analysis is an attempt to highlight the preventable causes of neonatal deaths in developing countries, especially in Pakistan. Four papers of Lancet neonatal survival series which included the main causes of neonatal deaths, cost-effective interventions and guidance of future planning were analyzed followed by discussion which focused mainly on neonatal mortality in Pakistan. Comparison of Pakistan with its neighboring countries in terms of neonatal survival rates is done to provide evidence for timely action. Integration of MNCH services with primary health care, capacity building and increase in number of trained health work force were some of the key suggestions emerging out of the analysis. Moreover, effective and continuous monitoring of programs should be ensured. (Pak J Public Health 2012;2(2):66-8)

Key words: Neonatal mortality, Developing countries, Community based interventions, Cost effectiveness, Child health.

Background
Despite the fact that massive advancement in clinical medicine has decreased human suffering by successfully fighting many diseases, and led to improvement in quality of life but has failed to eliminate basic preventable causes of neonatal deaths especially in developing world. Picture is very different in two realms of world: developed and developing countries. Neonatal mortality is not much of a problem in most of the developed countries but it is in alarming situation in developing world. Mortality figures of developing countries raise concern of public health specialists around the world as to why things are not improving in this part of the world even though a lot of effort has been done by international community. What are the short comings and how to address them effectively in order to improve neonatal survival status? Lancet series on Neonatal survival is an attempt to build consensus on the problems associated with neonatal mortality. Analysis of the series will improve our understanding of the gaps which are holding back the success in neonatal survival rates in developing countries.

The series serves the purpose of highlighting the grave situation of neonatal deaths occurring throughout the world especially in developing countries. It is an evidence of its kind which correlates different aspects of neonatal mortality and by giving solutions in a form of effective interventions, it concludes by bringing these measurements to action. These four papers written in a form of series establish a concrete ground on why it is important to raise neonatal mortality issue, who is effected the most, what interventions should be done in resource constraint settings, and is there any success up till now and what lies ahead.

The critical analysis
The series starts with introducing the neonatal survival as a challenge for the entire world. Around 38% of under five mortality is actually neonatal mortality. Child survival is most difficult in first week of life or in first 24 hours after birth. Therefore, maximum stress should be given in improvement of care during first week of life. Most of deaths are occurring in middle to low-income countries where maximum births are taking place at home. There is a requirement of community based interventions which are cost effective as well as efficient. Skilled attendant during birth can play vital role in saving mother as well as child. Ninety seven percent of neonatal deaths are occurring in resource constraint settings. The main causes of neonatal deaths are preterm births, severe infections (sepsis, tetanus, diarrhea), and asphyxia. Low weight at birth and poverty make child more vulnerable (1).

Certain cost effective interventions mentioned in the series can successfully bring down the neonatal mortality and help in achievement of the MDG 4. It is suggested that community based low cost interventions are more successful and effective in this regard. Health education to community by the local community workers will spread the word of how to take care of a new born. Skilled attendant during birth can also do wonders. Simple
procedures of how to keep baby warm, breast feeding, cord care etc can reduce new born deaths markedly. Paper very nicely calculated the actual cost of such interventions which is not too high and affordable by low-income settings. Even though it was suggested the neonatal mortality rate can be reduced by these community based interventions but there is a great need of up gradation of facility based services as well. Emergency Obstetric Care services should be available at low cost around the clock to deal with the emergencies. For reduction in both neonatal and maternal mortality- community based as well as facility based methods and then scaling up of facilities should be done. Management of missed opportunities should be taken care of to get maximum result. Instead of vertical programs integration of neonatal health with primary health care is required. There is a great need to strengthen supply, all hurdles related to supply and demand need to be eliminated. Moreover, close monitoring and evaluation is required for better results. Certain successful models are then discussed in the paper, with enough evidence that by taking all these measurements in account countries facing lack of resources have reduced their neonatal deaths tremendously; examples of Ethiopia and Madagascar are rightly mentioned in this context (3).

How to scale up neonatal health is also discussed in the series. There is a great need of political will to focus on the neonatal health issues. Policies and plans should be incorporated in the national plans to improve the neonatal health. Certain cost effective methods can be adopted and implemented with full strength. Starting with community based methods and then scaling up of facilities should be done. Management of missed opportunities should be taken care of to get maximum result. Instead of vertical programs integration of neonatal health with primary health care is required. There is a great need to strengthen supply, all hurdles related to supply and demand need to be eliminated. Moreover, close monitoring and evaluation is required for better results. Certain successful models are then discussed in the paper, with enough evidence that by taking all these measurements in account countries facing lack of resources have reduced their neonatal deaths tremendously; examples of Ethiopia and Madagascar are rightly mentioned in this context (3).

The last paper of the series narrates modalities to translate these measures into action. Firstly, comprehensive research, information and record keeping must be ensured. Every birth and every death should be registered so that a true picture of the story is visible. Causes of deaths and complications should also be gathered during registration. Research should be encouraged to provide evidence for policy making. Developing the cost effective interventions suitable for certain settings then should be fully implemented as well as properly monitored. Close monitoring and supervision is required to strengthen implementation (4). Successful implementation will be profitable in fund generation and policy development.

Discussion
Taking stock of the situation in Pakistan, the fact is that under five mortality rate of Pakistan is 87/1000 live births, IMR is 70/1000 live births and neonatal mortality is 41/1000 live births. While comparing these figures with other South Asian countries, the country does not portray a very encouraging picture. Only Afghanistan is lagging behind and all the other countries such as India, Nepal, Bangladesh and Sri Lanka have shown improvement in child survival (5). If we closely observe Pakistani figures, we can clearly draw conclusion that most of under five deaths are neonatal deaths, therefore, the immediate emphasis should be on the adequate neonatal care. Despite of endless efforts by the donor agencies to highlight and eliminate major gaps in service delivery of MNCH services, there hasn’t been much improvement in elevating the neonatal survival status. Proper identification of gaps and development of a robust mechanism to fill these gaps is needed. Lack of integration and management of services provided by the public health sector is one of the causes of current state of affairs regarding neonatal survival. Improvement and integration of MNCH services at primary health care level is required (6). Delivering proper services through the health workers and community support groups can guarantee better results. Linking these community workers with first level referral facilities is a cost-effective intervention which can successfully improve results. By resolving the program management issues and coverage related to community health worker program, maximum capacity and potential can be achieved (7).

Another approach which can be very useful in propagating a healthy behavior during early neonatal care is by adopting social marketing strategy. Promotion of timely and proper practices and behaviors associated with neonatal care is need of the day. Despite the fact that there has been a gradual reduction in child and infant mortality in Pakistan neonatal mortality still remains high, which is mainly due to malpractices of community and inappropriate advices of the traditional birth attendants. In rural communities, where every three out of five deliveries take place at home (8), promotion and propagation of healthy behaviors can save many newborn lives.

Pakistan is facing major crisis in terms of trained human resource for health. When public and private sectors are compared, there are marked differences in the quality of care, availability of staff and in overall responsiveness. Public sector lacks sufficient trained staff, and has failed to provide job satisfaction and proper work environment (9). These issues need to be sorted out observantly in order to overcome this crisis. There have
been many initiatives taken by the government as well as the donors to improve status of mother and newborn health. These initiatives have highlighted the gaps in service delivery, created awareness among masses and strived to improve maternal and newborn health outcomes. Unfortunately, these initiatives were limited to certain districts or geographical regions. Yet, these endeavors mainly served rural and poor population. By continuing the agenda of these initiatives and proper integration of MNCH services with primary health care can lead to achievement of the MDG 4 and 5.

Pakistan should develop a strong component of child health in its road map to the MDGs in the form of a national vision (10). Provision of integrated child health services should be made possible. This policy will provide long-term vision and commitment for all stakeholders and it will help in sustaining certain successful programs. Strong advocacy would be required by the civil society, the non-governmental organizations and the think tanks. Along with a rational policy, there is a requirement of effective implementation of such developments. Cost-effective interventions which have been oft-documented and well-researched must be considered for implementation in present times when provinces are facing resource constraints after devolution. Third party evaluation of programs is essential for transparency. Accountability is a major factor which would contribute to the success of any program. If all these things are well taken care of and best services are provided by the public as well as the private sector, the situation can improve and many neonatal lives could be saved.

References
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